REMARKS

Claims 1, 2, 4-19, 21-28 and 66 are pending in this application. Claims 1, 17, 18, 28 and 66 have been amended. No new matter has been added by way of amendment. Support for the amendments to claims 1, 17, 18, 28 and 66 can be found at least in the Specification as originally filed at p. 5, line 21 to p. 6, line 8; p. 9, lines 3-22; p. 18, lines 1-5; claims 1-68; Fig. 1; Fig. 3.

Claims 1, 17, 18, 28 and 66 have been rejected under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the enablement requirement. *See* Final Rejection at ¶ 10. Claims 1, 2, 10-11, 15-16, 18-19, 25, 27 and 66 are rejected under 35 U.S.C. § 102(a) as allegedly anticipated by European Patent Application No EP 1-014-318 A2 to Yamaguchi ("Yamaguchi"). *See* Final Rejection at ¶ 13. Claims 4-9, 12-13, 17, 21-24, 26 and 28 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Yamaguchi in view of U.S. Patent No. 6,390,362 to Martin ("Martin"). *See* Final Rejection at ¶ 23. Claim 14 is rejected under 35 U.S.C. § 103(a) as allegedly obvious over Yamaguchi in view of U.S. Patent No. 5,432,506 to Chapman ("Chapman"). *See* Final Rejection at ¶ 30.

I. Claim Rejections Under 35 U.S.C. § 112.

Claims 1, 17, 18, 28 and 66 have been rejected under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the enablement requirement. *See* Final Rejection at ¶ 10. The Examiner states that the claim(s) contain subject matter "which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention." *Id.* Specifically, the Examiner states that Applicants have amended the claims to contain the limitation "the first security image is visible in the composite image that is printed on the instrument and invisible on a photocopy of the instrument." *Id.* The Examiner states that the cited sections of the specification by Applicant (p. 5, line 21 to p. 6, line 8; p. 9, lines 3-22; p. 18, lines 1-5; claims 1-68; Fig. 1; Fig. 3) do not provide support for enabling such amendments. *Id.* The Examiner further requires Applicant to "disclose such process in details by the applicant to over come the rejection." *Id.* at ¶ 11.

The purpose of the enablement requirement of 35 U.S.C. § 112, first paragraph is to "ensure that the invention is communicated to the interested public in a meaningful way . . . [t]he

information contained in the disclosure . . . must be sufficient to inform those skilled in the relevant art how to both make and use the claimed invention." MPEP § 2164. However, to comply with the enablement requirement, "it is not necessary to 'enable one of ordinary skill in the art to make and use a perfected, commercially viable embodiment absent a claim limitation to that effect.'" *Id., citing CFMT, Inc. v Yieldup Int'l Corp.*, 349 F.3d 1333, 1338, 68 USPQ2d 1940, 1944 (Fed. Cir. 2003). Further, "[d]etailed procedures for making and using the invention may not be necessary if the description of the invention is itself to permit those skilled in the art to make and use the invention." *Id.*

The test of whether a claim is enabled is whether "experimentation needed to practice the invention [is] undue or unreasonable . . ." *Id.* at § 2164.01, *citing Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916). Additionally, "[a] patent need not teach, and preferably omits, what is well known in the art." *Id., citing In re Buchner*, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986); *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1463, 221 USPQ 481, 489 (Fed. Cir. 1984). The examiner has the "initial burden to establish a reasonable basis to question the enablement provided for the claimed invention." MPEP § 2164.04, *citing Genetech v. Wellcome Foundation*, 29 F.3d 1555, 1563-64, 31 USPQ2d 1161, 1167-68 (Fed. Cir. 1994). A rejection for lack of enablement "should focus on [the *Wands* factors], reasons, and evidence that lead the examiner to conclude that the specification fails to teach how to make and use the claimed invention without undue experimentation, or that the scope of any enablement provided to one skilled in the art is not commensurate with the scope of protection sought by the claims." *Id.* (emphasis in original).

As an initial matter, Applicant respectfully submits that the cited sections of the specification do provide support for enabling the amendments. For example, original claims 2-3, 17, 19-20, 28, 30-31, 51, 53-54 and 65 all claim a first security image that appears as part of a composite image when printed and is invisible on a photocopy of the instrument. Further, the specification at p. 7, lines 11-19 discloses that an example of a first security portion of an electronic image according to one embodiment of the invention is a watermark "that is printed along with the instrument embedded within the digital image . . . [t]he watermark may be

readable on the original instrument that is printed, but is not readable on any photocopy of the instrument." Specification at p. 7, lines 12-15. The specification further details that an "example of such a watermark is one that is embedded directly in the electronic image by modulating the brightness of specific image pixels." *Id.* at lines 15-17. Applicant respectfully submits that the claims in the original specification, in light of the disclosure, disclose that the first security image is "visible in the composite image that is printed on the instrument," yet is "invisible on a photocopy of the instrument."

The Examiner's rejection is based on "knowledge available to the examiner and extensive search of the subject matter and relevant," and it is stated that "no known practice of such process or how to accomplish such steps in [sic] known." Final Rejection at ¶ 11. Applicants respectfully submit that information is provided in the Declaration under 37 C.F.R. § 1.131, submitted on April 7, 2005, at ¶¶ 17, 18 which references that IBM adapted its technology to accomplish the claimed inventions of this application. Further, Applicants respectfully submit that it was known to those skilled in the art at the time the invention was made to print images on documents which images could not be read or reproduced by photocopiers. *See* Exh. A (Newsletter of the Int'l Government Printing and Publishing Assn., November 2000, "Protection, counterfeiting and falsification - Counterfeiting of Documents"); Exh. B (U.S. Patent No. 5,538,290 to Diamond, col. 1, lines 46-55).

Applicants respectfully submit that the specification as originally filed provides those of ordinary skill in the art sufficient information to make and use the claimed inventions without undue experimentation. Accordingly, Applicants request that this rejection be withdrawn.

II. Claim Rejections Under 35 U.S.C. § 102(a).

Claims 1, 2, 10-11, 15-16, 18-19, 25, 27 and 66 are rejected under 35 U.S.C. § 102(a) as allegedly anticipated by Yamaguchi. *See* Final Rejection at ¶ 13. Applicants respectfully submit that Yamaguchi does not disclose each and every element of claims 1, 18 and 66, either as amended or as previously presented, and therefore does not anticipate claims 1, 18 and 66, or any claims dependent from claims 1, 18 and 66, and that this rejection should be withdrawn. Applicants further note that the present amendments are intended for further clarification of the scope of the claims and do not to limit the scope of the claims as they existed prior to this

amendment.

A. Claims 1, 18 and 66.

The Examiner states that Yamaguchi discloses a "system, its method and electronically readable medium for remotely generating an instrument comprising: a) a processor that receives from a customer a request for the instrument (See Yamaguchi abstract, figures 2 step S8 and paragraph [0010] and [0023]); b) generates the instrument in electronic form (See Yamaguchi abstract, figures 2 step S11, and paragraph [0010]-[0013] and [0025]); c) adds a first security image in electronic form to the electronic form 8 of the instrument to create a composite image (See Yamaguchi abstract, figures 2 step S12, and paragraph [0010]-[0013] and [0025]); and d) a communications module that transmits the composite image in electronic form to the customer for printing by the customer to create the instrument (See Yamaguchi abstract, figures 2 step S12, and paragraph [0010]-[0013] and [0025]-[0026], where transmits corresponds to sent). Wherein the first security image is visible in the composite image that is printed on the instrument and invisible on a photocopy of the instrument (See Yamaguchi figures 2-5, 9, 22, and 23 and related text, paragraphs [0034]-[0036] and [0087])." *See* Final Rejection at ¶ 14. (emphasis in original).

Applicants provided a detailed discussion of the Yamaguchi disclosure in the Amendment and Response filed on December 20, 2005 and incorporate that discussion herein by reference. The pertinent part of that discussion is that Yamaguchi does not teach a "first security image" that is transmitted to a customer as part of a composite image for printing by the customer on a medium, where the "first security image" is "visible in the composite image that is printed on the instrument and invisible on a photocopy of the instrument," as claimed in claims 1, 18 and 66. None of the data items disclosed in Yamaguchi - **"security data," "ticket image data"** or **"ticket printing data"** - meets the limitations of the "first security image," however.

In Yamaguchi, **"security data"** is made from ticket issue request data and user identification data that has been sent from a user via a communications means; **"ticket image**

data"[1] is made from the ticket issue request data; and "**ticket printing data**" is made by embedding the "**security data**" in the "**ticket image data.**" *See* Yamaguchi, [0010]-[0013]; [0023]-[0025]; [0029]; [0034]-[0036]; claims 1, 15, 16; Figs. 5, 22, 23. According to Yamaguchi, the "**security data**" are embedded in the "**ticket image data**" to form a composite image - the "**ticket printing data**" - such that the "**security data**" are *invisible* against the "**ticket image data**" when the **ticket printing data**" are printed on a ticket paper. *See* Yamaguchi, [0010]; [0012]; [0013]; [0025]; [0034]-[0036]; [0050]; [0062]; [0085]. The "**security data**" thus corresponds to the "first security image" of claims 1, 18 and 66 in that it is an image added in electronic form to the electronic form of the image of the instrument itself to form a composite image. The "**ticket image data**" corresponds to the "electronic form of the instrument"; and the "**ticket printing data**" corresponds to the "composite image" that is sent to the user for printing on a medium.

However, the "**security data**" of Yamaguchi are *not* "*visible* in the composite image that is printed on the instrument and *invisible* on a photocopy of the instrument," as claimed in claims 1, 18 and 66. Rather, the "**security data**" of Yamaguchi are *invisible* in the composite image (*i.e.*, "**ticket printing data**") when printed on the medium. *See* Yamaguchi at [0010], lines 42-45 (". . . making ticket printing data by embedding the security data in the ticket image data, **the security data being invisible against the ticket image data when the ticket printing data including the ticket image data and the security data is printed on a ticket paper by the user**. . .") (emphasis added); [0012], lines 57-58; [0013], lines 6-7; [0034]; [0088]; [0091]; [0092]; Figs. 3-5 and [0028] (Fig. 3 depicts ticket image data; Fig. 4 depicts security data; and Fig. 5 depicts ticket printing data; note that items 39-42 of Fig. 4 *do not* appear on Fig. 5 - the location of item 38 of Fig. 3 (the "logo") "in the visible state [Fig. 3] is so arranged that it is completely agreed with that in the invisible state in the security data [item 42 of Fig. 4].") Yamaguchi, through its disclosure of "**security data**," does not disclose each and every limitation of claims 1, 18 and 66 and specifically not the "first security image" of claims 1, 18

[1] The "**ticket image data**" are the data of "the so-called ticket itself." *See* Yamaguchi, [0050]; *see also* Fig. 3.

and 66, because the "**security data**" of Yamaguchi are *not visible* when the composite image ("the "**ticket printing data**") are printed on a medium. Yamaguchi therefore does not anticipate these claims.

Neither the "**ticket image data**" nor the "**ticket printing data**" meet the limitations of a "first security image" of claims 1, 18 and 66, either. Yamaguchi does not disclose that either of these are *visible* when the composite image (the "**ticket printing data**") is printed on a medium, and then *invisible* on a photocopy of the instrument. Rather, the "**ticket image data**" is "the so-called ticket itself" (*see* [0050]), and is *not invisible* when the ticket is copied. *See* Yamaguchi, [0029]; Figs. 3, 5. Similarly, since the "**ticket printing data**" is a composite of the "**security data**" and the "**ticket image data,**" it is likewise *not invisible* when the ticket is copied. These data of Yamaguchi thus also do not satisfy the requirements of the "first security image" of claims 1, 18 and 66.

The Examiner states that "[t]he thrust of applicants' argument is that the first security image is visible on the instrument printed on the medium." *See* Final Rejection at ¶ 4. The Examiner cites to Yamaguchi at Figs. 2-5, 9, 22 and 23; [0087]; and [0034]-[0036] as allegedly teaching the printing of visible and invisible image data to be printed on a medium. *See* Final Rejection at ¶ 14(d).

Applicants disagree that with the Examiner that this is the "thrust" of their argument. Rather, the thrust of the argument is that Yamaguchi does not disclose any ***single data*** item that is *visible* when printed on a medium, where that ***same data*** is then *invisible* when copied. Applicants respectfully submit that the Examiner has improperly combined the attributes of the various data items of Yamaguchi to meet the "first security image" limitation of claims 1, 18 and 66. Applicants submit that the Examiner's argument is that Yamaguchi discloses "**ticket printing data**" that are visible when printed on a medium, and also discloses "**security data**" that are *invisible* when copied. That, however, is not what is claimed in claims 1, 18 and 66. Applicants have ***not*** claimed a system and method of remotely generating an instrument comprising two separate data items on an instrument, one of which is visible when printed on a medium and the other of which is invisible when copied. Rather, Applicants have claimed a system and method of remotely generating an instrument comprising a "first security image",

where the "***first security image***" is ***visible*** when printed on a medium, ***and*** the "***first security image***" - the ***same*** data item - is ***invisible*** when copied.

The sections of Yamaguchi cited by the Examiner, however, do not disclose ***any single item of data*** that are both *visible* when printed on the medium, and then *invisible* when copied.

Paragraph [0087] discloses the following, in its entirety:

> Fig. 22 schematically shows the state from issue of ticket to detection of security data so far in use. For the ticket image data 21, a landscape photograph is used. For the security data 22, a logo mark "JAPAN" as a copyright data and a two-dimensional code for checking by the sense of vision of a man and by a machine that are converted into the security data according to the steps shown in this embodiment are used.

This paragraph [0087] discloses two types of data - ticket image data 21 and security data 22. As previously discussed, ticket image data 21 is not both *visible* when printed on the medium, and *invisible* when copied. Rather, ticket image data 21 is visible both when printed on the medium *and* when copied. '*See* Fig. 5 ("**ticket printing data**" which are printed on ticket paper - logo is *visible* on printed paper). As also previously discussed, security data 22 is *also* not *visible* when printed on the medium, and *invisible* when copied. Rather, security data 22 is *invisible* when printed on the medium and *invisible* when copied. *See* Fig. 4 (items 39, 40, 41 and 42 of Fig. 4 - the "**security data**" - are *invisible* when printed on ticket paper, as seen in Fig. 5, not *visible* as required by claims 1, 18 and 66). *See also* Figs. 3-5 and [0028] (Fig. 3 depicts ticket image data; Fig. 4 depicts security data; and Fig. 5 depicts ticket printing data; note that items 39-42 of Fig. 4 *do not* appear on Fig. 5 - the location of item 38 of Fig. 3 (the "logo") "in the visible state [Fig. 3] is so arranged that it is completely agreed with that in the invisible state in the security data [item 42 of Fig. 4].") Thus, when the Examiner states that Yamaguchi "clearly teaches the printing of the visible and invisible image data as to be printed on a medium," Applicants respectfully submit that there is ***no single item of data*** in Yamaguchi that is *both visible* when printed on a medium, and then *invisible* when copied. In other words, no item of data in Yamaguchi - whether the "**security data,**" the "**ticket image data**" or the "**ticket printing data**" - meets the requirements of "first security image" of claims 1, 18 and 66.

The Examiner also states that "the logo mark is used as a visible as well as invisible state

as to be used as a security image." *See* Final Rejection at ¶ 4, *citing to* Yamaguchi at [0034]-[0036]. However, Applicants respectfully submit that these cited paragraphs *support* Applicants' arguments - they confirm that the logo in the "**ticket image data**" is included in the *visible* state in the "**ticket printing data,**" and that the logo in the security data is included in the *invisible* state in the "**ticket printing data**." *See* Yamaguchi at [0035]-[0036].

The Examiner further states that the paper watermarks that are visible by "holding the instrument against the light, can be considered as visible image and once the instrument has been copied the paper watermark does not copy or printing holograms that are difficult to copy (See Martin '362 column 2, lines 11-46)." *See* Final Rejection at ¶ 6. Applicants respectfully submit that the paper watermarks disclosed in Martin are *not* "a first security image" that is added in electronic form to create a composite image and that is printed on the instrument, as required by claims 1, 18 and 66. Rather, Martin discloses watermarks that are made by applying different degrees of pressure during the paper manufacturing process. *See* col. 2, lines 16-18. Therefore, the paper watermark does not meet the requirements of these claims of a "first security image."

These cited sections of Yamaguchi therefore do not disclose any "first security image' that is both *visible* when printed as part of a composite image by the customer, and *invisible* in a photocopy of the instrument. There is no item of data in Yamaguchi that therefore meets the limitations of a "first security image" of claims 1, 18 and 66.

Since Yamaguchi does not disclose each and every limitation of claims 1, 18 and 66, and specifically does not disclose the limitation of a "first security image" that is *visible* in the composite image that is printed on the instrument and *invisible* on a photocopy of the instrument, Applicants respectfully request that this rejection be withdrawn against claims 1, 18 and 66.

B. Claims 2 and 19.

The Examiner states that as per claims 2 and 19, Yamaguchi discloses "all the limitations of claims 1 and 18, wherein the first security image comprises a watermark that appears as a part of the composite image when printed (See Yamaguchi figures 3-8, paragraphs [0034], [0044], [0049]-[0050] and [0062], where watermark corresponds to data to be embedded in the image data in the invisible state)." *See* Final Rejection at ¶ 15.

Applicants respectfully submit that at least for the reasons stated in Sec. II(A) *supra* that

Yamaguchi does not disclose each and every limitation of claims 2 and 19, which depend from claims 1 and 18, and specifically does not disclose the limitation that the first security image is *visible* in the composite image that is printed on the instrument and *invisible* on a photocopy of the instrument. Therefore, Applicants respectfully request that this rejection be withdrawn against claims 2 and 19.

C. Claim 10.

The Examiner states that as per claim 10, Yamaguchi discloses "all the limitations of claim 1, wherein the instrument comprises a monetary instrument (See Yamaguchi figure 23, paragraph [0092], where monetary instrument corresponds to enable a user issue what has a value equal to money)." *See* Final Rejection at ¶ 16.

Applicants respectfully submit that at least for the reasons stated in Sec. II(A) *supra* that Yamaguchi does not disclose each and every limitation of claim 10, which depends from claim 1, and specifically does not disclose the limitation that the first security image is *visible* in the composite image that is printed on the instrument and *invisible* on a photocopy of the instrument. Therefore, Applicants respectfully request that this rejection be withdrawn against claim 10.

D. Claim 11.

The Examiner states that as per claim 11, Yamaguchi discloses "all the limitations of claim 10, wherein the instrument represents certified funds (See Yamaguchi figure 23, paragraph [0092], where monetary instrument corresponds to enable a user issue what has a value equal to money like postage stamps. Stamps are certified funds used for variety of transactions and fee payments especially in official correspondents [sic])." *See* Final Rejection at ¶ 17.

Applicants respectfully submit that at least for the reasons stated in Sec. II(C) *supra* that Yamaguchi does not disclose each and every limitation of claim 11, which depends from claim 10, and specifically does not disclose the limitation that the first security image is *visible* in the composite image that is printed on the instrument and *invisible* on a photocopy of the instrument. Therefore, Applicants respectfully request that this rejection be withdrawn against claim 11.

E. Claim 15.

The Examiner states that as per claim 15, Yamaguchi discloses "all the limitations of claim 10, wherein the request comprises at least one of an amount, a denomination and a

currency of the monetary instrument (See Yamaguchi figure 3, and paragraphs [0010]-[0013] [0023] and [0031])." *See* Final Rejection at ¶ 18.

Applicants respectfully submit that at least for the reasons stated in Sec. II(C) *supra* that Yamaguchi does not disclose each and every limitation of claim 15, which depends from claim 10, and specifically does not disclose the limitation that the first security image is *visible* in the composite image that is printed on the instrument and *invisible* on a photocopy of the instrument. Therefore, Applicants respectfully request that this rejection be withdrawn against claim 15.

F. Claims 16 and 27.

The Examiner states that as per claims 16 and 27, Yamaguchi discloses "all the limitations of claims 1 and 18, further comprising a step of e) associating a unique identifier number with the instrument (See Yamaguchi figure 3, and paragraphs [0010]-[0013] [0023], [0031] and [0035])." *See* Final Rejection at ¶ 19.

Applicants respectfully submit that at least for the reasons stated in Sec. II(A) *supra* that Yamaguchi does not disclose each and every limitation of claims 16 and 27, which depend from claims 1 and 18 respectively, and specifically does not disclose the limitation that the first security image is *visible* in the composite image that is printed on the instrument and *invisible* on a photocopy of the instrument. Therefore, Applicants respectfully request that this rejection be withdrawn against claims 16 and 27.

G. Claim 25.

The Examiner states that as per claim 25, Yamaguchi discloses "all the limitations of claim 18, wherein the instrument comprises a monetary instrument that represents certified funds (See Yamaguchi figure 23, paragraph [0092], where monetary instrument corresponds to enable a user issue what has a value equal to money) and the instrument represents certified funds (See Yamaguchi figure 23, paragraph [0092], where monetary instrument corresponds to enable a user issue what has a value equal to money like postage stamps. Stamps are certified funds used for variety of transactions and fee payments especially in official correspondents [sic])." *See* Final Rejection at ¶ 20.

Applicants respectfully submit that at least for the reasons stated in Sec. II(A) *supra* that Yamaguchi does not disclose each and every limitation of claim 25, which depends from claims

18 and 23, and specifically does not disclose the limitation that the first security image is *visible* in the composite image that is printed on the instrument and *invisible* on a photocopy of the instrument. Therefore, Applicants respectfully request that this rejection be withdrawn against claim 25.

III. Claim Rejections Under 35 U.S.C. § 103(a).

Claims 4-9, 12-13, 17, 21-24, 26 and 28 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Yamaguchi in view of Martin. *See* Final Rejection at ¶ 23. Claim 14 has been rejected under 35 U.S.C. § 103(a) as allegedly obvious over Yamaguchi in view of Chapman. *See* Final Rejection at ¶ 30. Applicants respectfully submit that neither Yamaguchi in combination with Martin nor Yamaguchi in combination with Chapman disclose each and every limitation of claims 4-9, 12-14, 17, 21-24, 26 and 28, and that this rejection be withdrawn for failing to form a *prima facie* case of obviousness.

A. Claims 4-6 and 21-22.

The Examiner states that Yamaguchi discloses all the limitations of claims 2 and 19, and that Martin "clearly discloses the presence of secondary security image on the instrument visible only when the instrument has been copied and displaying the word 'Void' (See Martin, column 2, lines 11-15 and 21-24 and column 4, lines 21-39)." *See* Final Rejection at ¶ 24. According to the Examiner, "it would have been obvious to one having ordinary skill in the art at the time the current invention was made to further include additional security images such as pantographs spelling out certain words or images (Void or Copy, etc.) for the motivation of better security and fraud prevention." *Id.*

Applicants respectfully submit that, as discussed in Sec. II(A) *supra*, Yamaguchi does not disclose at least the limitation of claims 1 and 18 of a system or its method of transmitting to a customer an instrument remotely generated in electronic form to which a "first security image" in electronic form has been added to form a composite image for printing by the customer on a medium, wherein the "first security image" is *visible* in the composite image that is printed on the instrument and *invisible* on a photocopy of the instrument. Rather, Yamaguchi discloses "**security data**" that are *invisible* in the composite image ("**ticket printing data**") printed on ticket paper by a user, and also are *invisible* when copied. *See* Yamaguchi, [0010], line 44-45;

[0012], lines 57-58; [0013], lines 6-7; [0034], lines 7-8; [0050], lines 57-58; [0062], lines 48-49; [0088], lines 31-32; [0091], lines 41-42; [0092], lines 44-45; claims 1, 15, 16; Figs. 5, 22, 23. Yamaguchi also discloses "**ticket printing data**" comprising "**security data**" and "**ticket image data**" that are *visible* in a composite image when printed on ticket paper by a user, but there is no disclosure that the "**ticket printing data**" or the "**ticket image data**" are *invisible* in a photocopy of the instrument. *See* Sec. II(A).

Martin does not disclose the limitations that are missing in Yamaguchi, either. Martin discloses an inventive check that includes a barcode, which includes at least one of the following pieces of information: the date the check was paid, the amount of the check, the payee, the drawers account number, the bank's routing number, and the identifier number of the check. *See* Martin, Abstract; col. 4, lines 5-19; col. 5, lines 7-14; col. 7, lines 38-42. Martin also provides for a method for preventing check fraud which includes attaching a machine readable code on a negotiable instrument and creating a negotiable instrument, where the drawee receives the negotiable instrument and scans the machine readable bar code. *See* Martin, Abstract. However, Martin does not disclose at least the limitation of claims 1 and 18 of a system or its method of transmitting to a customer an instrument remotely generated in electronic form to which a first security image in electronic form has been added to form a composite image for printing by the customer on a medium, wherein the first security image is visible in the composite image that is printed on the instrument and invisible on a photocopy of the instrument.

Since claims 4-6 depend from claim 1 and claims 21-22 depend from claim 18, Yamaguchi in combination with Martin does not disclose each and every limitation of claims 4-6 and 21-22, and specifically does not disclose the limitation that the first security image is *visible* in the composite image that is printed on the instrument and *invisible* on a photocopy of the instrument. Therefore, Applicants respectfully request that this rejection be withdrawn against claims 4-6 and 21-22 for failure to form a *prima facie* case of obviousness.

B. Claims 7-9 and 23-24.

The Examiner states that Yamaguchi discloses all the limitations of claims 1 and 18, and that Martin "clearly discloses the presence of secondary security image on the instrument visible only when the instrument has been copied and displaying the word "Void" (See Martin, column

2, lines 11-15 and 21-24 and column 4, lines 21-39). *See* Final Rejection at ¶ 25. According to the Examiner, "it would have been obvious to one having ordinary skill in the art at the time the current invention was made to further include additional security images such as pantographs spelling out certain words or images (Void or Copy, etc.) for the motivation of better security and fraud prevention." *Id.*

As discussed *supra* in Sec. III(A), Yamaguchi in combination with Martin does not disclose each and every limitation of claims 1 and 18, and specifically does not disclose the limitation that the "first security image" is *visible* in the composite image that is printed on the instrument and *invisible* on a photocopy of the instrument. Therefore, Applicants respectfully request that this rejection be withdrawn against claims 7-9 and 23-24, which depend from claims 1 and 18, for failure to form a *prima facie* case of obviousness.

C. Claim 12.

The Examiner states that Yamaguchi discloses all the limitations of claim 11, and that Martin "clearly discloses that a financial entity such as a bank is the generator of the instrument and the bank is grantor of the payment of the face amount to the payee from the payor's account held at the bank (See Martin abstract, column 3, line 55-column 4, line 2 and column 8, lines 10-19)." *See* Final Rejection at ¶ 26. According to the Examiner, "it would have been obvious to one having ordinary skill in the art at the time the current invention was made to have the financial institution certify the financial instrument created and drawn on an account of an account holder and printed for the motivation of further security of the financial or negotiable instrument and presence of the funds to cover such instrument." *Id.*

As discussed *supra* in Sec. III(A), Yamaguchi in combination with Martin does not disclose each and every limitation of claim 1 (from which claim 12 depends), and specifically does not disclose the limitation that the "first security image" is *visible* in the composite image that is printed on the instrument and *invisible* on a photocopy of the instrument. Therefore, Applicants respectfully request that this rejection be withdrawn against claim 12, which depends from claims 1 and 11, for failure to form a *prima facie* case of obviousness.

D. Claim 13.

The Examiner states that Yamaguchi discloses all the limitations of claim 12, and that

Martin "clearly discloses that the funds are withdrawn from the customer's deposit account (See Martin abstract, column 3, line 55-column 4, line 2 and column 8, lines 10-19)." *See* Final Rejection at ¶ 27. According to the Examiner, "it would have been obvious to one having ordinary skill in the art at the time the current invention was made to have the financial institution withdraw the funds from the account of the account holder for the motivation of further security of the financial or negotiable instrument and presence of the funds to cover such instrument." *Id.*

As discussed *supra* in Sec. III(C), Yamaguchi in combination with Martin does not disclose each and every limitation of claim 12 (from which claim 13 depends), and specifically does not disclose the limitation that the "first security image" is *visible* in the composite image that is printed on the instrument and *invisible* on a photocopy of the instrument. Therefore, Applicants respectfully request that this rejection be withdrawn against claim 13 for failure to form a *prima facie* case of obviousness.

E. Claim 26.

The Examiner states that Yamaguchi discloses all the limitations of claim 25, and that Martin "clearly discloses that a financial entity such as a bank is the generator of the instrument and the bank is grantor of the payment of the face amount to the payee from the payor's account held at the bank (See Martin abstract, column 3, line 55-column 4, line 2 and column 8, lines 10-19)." *See* Final Rejection at ¶ 28. According to the Examiner, "it would have been obvious to one having ordinary skill in the art at the time the current invention was made to have the financial institution certify the financial instrument created and drawn on an account of an account holder and printed for the motivation of further security of the financial or negotiable instrument and presence of the funds to cover such instrument." *Id.*

As discussed *supra* in Sec. III(A), Yamaguchi in combination with Martin does not disclose each and every limitation of claim 18, and specifically does not disclose the limitation that the "first security image" is *visible* in the composite image that is printed on the instrument and *invisible* on a photocopy of the instrument. Therefore, Applicants respectfully request that this rejection be withdrawn against claim 26, which depends from claim 18, for failure to form a *prima facie* case of obviousness.

E. Claims 17 and 28.

The Examiner states that as per claims 17 and 28, Yamaguchi "is not explicit [that] the composite image is for printing on a medium having a second security image the second security image is invisible on the instrument and is visible on a photocopy of the instrument." *See* Final Rejection at ¶ 29. According to the Examiner, "Martin clearly discloses the presence of secondary security image on the instrument visible only when the instrument has been copied (See Martin, column 2, lines 11-15 and 21-24 and column 4, lines 21-39)." *Id.* According to the Examiner, "it would have been obvious to one having ordinary skill in the art at the time the current invention was made to further include additional security images such as pantographs spelling out certain words or images (Void or Copy, etc.) for the motivation of better security and fraud prevention." *Id.*

The Examiner further states that Yamaguchi is "not explicit and specific [that] the instrument is generated by an issuing financial institution, the funds are certified by the issuing financial institution and the customer holds a deposit account with the issuing financial institution." *Id.* According to the Examiner, Martin "clearly discloses that a financial entity such as a bank is the generator of the instrument and the bank is grantor of the payment of the face amount to the payee from the payor's account held at the bank (See Martin abstract, column 3, line 55-column 4, line 2 and column 8, lines 10-19)." *Id.* According to the Examiner, "it would have been obvious to one having ordinary skill in the art at the time the current invention was made to have the financial institution certify the financial instrument created and drawn on an account of an account holder and printed for the motivation of further security of the financial or negotiable instrument and presence of the funds to cover such instrument." *Id.*

Applicants respectfully submit that, as discussed in Sec. III(A) *supra*, Yamaguchi does not disclose at least the limitation of claims 1 and 18 of a system or its method of transmitting to a customer an instrument remotely generated in electronic form to which a "first security image" in electronic form has been added to form a composite image for printing by the customer on a medium, wherein the first security image is visible in the composite image that is printed on the instrument and invisible on a photocopy of the instrument. Rather, Yamaguchi discloses "**security data**" that are *invisible* in the composite image ("**ticket printing data**") printed on

ticket paper by a user, and also are *invisible* when copied. *See* Yamaguchi, [0010], line 44-45; [0012], lines 57-58; [0013], lines 6-7; [0034], lines 7-8; [0050], lines 57-58; [0062], lines 48-49; [0088], lines 31-32; [0091], lines 41-42; [0092], lines 44-45; claims 1, 15, 16; Figs. 5, 22, 23. Yamaguchi also discloses "**ticket printing data**" comprising "**security data**" and "**ticket image data**" that are *visible* in a composite image when printed on ticket paper by a user, but there is no disclosure that the "**ticket printing data**" or the "**ticket image data**" are *invisible* in a photocopy of the instrument. *See* Sec. III(A).

Martin similarly does not disclose the limitation of claims 17 and 28 of a system or its method of transmitting to a customer an instrument remotely generated in electronic form to which a first security image in electronic form has been added to form a composite image for printing by the customer on a medium, wherein the first security image is visible in the composite image that is printed on the instrument and invisible on a photocopy of the instrument.

Applicants respectfully submit that Yamaguchi in combination with Martin does not disclose each and every limitation of claims 17 and 28, and specifically does not disclose the limitation that the first security image is *visible* in the composite image that is printed on the instrument and *invisible* on a photocopy of the instrument. Therefore, Applicants respectfully request that this rejection be withdrawn against claims 17 and 28 for failure to form a *prima facie* case of obviousness.

G. Claim 14.

The Examiner states that Yamaguchi discloses all the limitations of claim 10, and that Chapman "clearly discloses that the . . . instrument can be checks, money orders, stock certificates, passports, other financial instruments, or other documents subject to counterfeiting and forgery (See Chapman abstract, column 1, lines 53-68, and column 4, lines 64-68)." *See* Final Rejection at ¶ 31. According to the Examiner, "it would have been obvious to one having ordinary skill in the art at the time the current invention was made to include other financial instruments as well as other documents subject to counterfeiting and forgery such as bonds and stock certificates for the motivation of further broadening of the usefulness of the Yamaguchi's invention." *Id.*

As discussed in Sec. III(A), *supra*, Applicants respectfully submit that, as discussed in

Sec. II(A) *supra*, Yamaguchi does not disclose at least the limitation of claims 1 and 18 of a system or its method of transmitting to a customer an instrument remotely generated in electronic form to which a first security image in electronic form has been added to form a composite image for printing by the customer on a medium, wherein the first security image is visible in the composite image that is printed on the instrument and invisible on a photocopy of the instrument. Rather, Yamaguchi discloses "**security data**" that are *invisible* in the composite image ("**ticket printing data**") printed on ticket paper by a user, and also are *invisible* when copied. *See* Yamaguchi, [0010], line 44-45; [0012], lines 57-58; [0013], lines 6-7; [0034], lines 7-8; [0050], lines 57-58; [0062], lines 48-49; [0088], lines 31-32; [0091], lines 41-42; [0092], lines 44-45; claims 1, 15, 16; Figs. 5, 22, 23. Yamaguchi also discloses "**ticket printing data**" comprising "**security data**" and "**ticket image data**" that are *visible* in a composite image when printed on ticket paper by a user, but there is no disclosure that the "**ticket printing data**" or the "**ticket image data**" are *invisible* in a photocopy of the instrument. *See* Sec. III(A).

Chapman discloses a system for verifying the authenticity of a document that bears a number of fields of strings of variable characters such as a check bearing date of issue field, payee field and numeric and alpha amount fields. *See* Chapman, Abstract; col. 2, lines 54-68.. The system of Chapman authenticates a document by entry of certain elements written or printed on an instrument into a computer, with the computer generating a code that it compares with a unique code on the instrument. *See* col. 1, lines 53-60. A mismatch between the generated code and the unique code on the instrument indicates fraud. *See* col. 1, lines 60-61. However, Chapman does not disclose at least the limitation of claim 1 of a system or its method of transmitting to a customer an instrument remotely generated in electronic form to which a first security image in electronic form has been added to form a composite image for printing by the customer on a medium, wherein the first security image is visible in the composite image that is printed on the instrument and invisible on a photocopy of the instrument.

Applicants respectfully submit that Yamaguchi in combination with Chapman does not disclose each and every limitation of claim 14 (which depends from claim 1), and specifically does not disclose the limitation that the first security image is *visible* in the composite image that is printed on the instrument and *invisible* on a photocopy of the instrument. Therefore,

Applicants respectfully request that this rejection be withdrawn against claim 14 for failure to form a *prima facie* case of obviousness.

CONCLUSION

Applicants respectfully request that this amendment be entered and all pending claims 1, 2, 4-19, 21-28 and 66 be allowed. This response has been filed within three (3) months of the mailing date of the Office Action and it is believed that no fees are due. If any fees are determined to be due, the Commissioner is hereby authorized to charge or credit that variance to the undersigned's Deposit Account No. 50-0206.

Respectfully submitted,

HUNTON & WILLIAMS LLP

Dated: May 10, 2006
By: Nancy J. Flint
Registration No. 46,704

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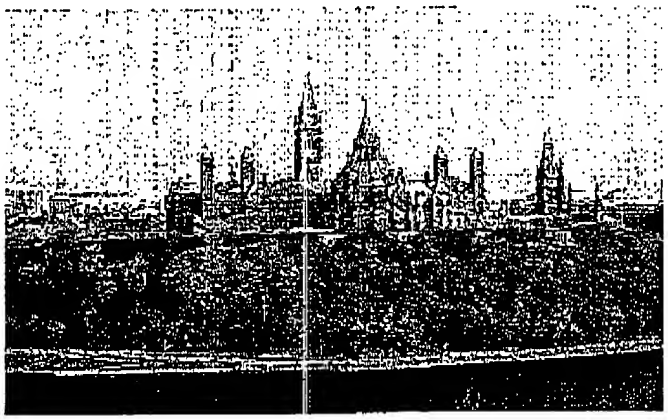
What is the future of printing and publishing in the new millennium?

The world is changing. And it is changing fast. In technology driven industry, three months is now the equivalent of an Internet year. In these terms, it will be another 2½ Internet years until the IGPPA Conference which is physically only 7 months away. In terms of the impact that this rate of change is having on the printing and publishing industry, even the most seasoned analysts are not willing to make any predictions. Technology is supposed to lead to a paperless society and yet there appears to be more paper than ever.

The new technologies and the advent of the Internet are changing the way most industries do business and printing and publishing is no exception. E-commerce is becoming increasingly popular and virtual money is becoming a more and more prevalent mode of executing transactions on-line. Electronic publishing is becoming a primary means of providing government information in many countries but the government reality of making information available to everyone, both on-line and through traditional vehicles, means that printing and publishing needs are increasing. Fortunately, technology is completely revolutionizing traditional printing making it cheaper and faster. This is not to mention all of the new innovations in secure papermaking and printing and the many new and innovative trends and technologies in the area of smart cards.

The upcoming International Government Printing and Publishing Conference has been planned to provide participants with the leading edge information that they are going to need to compete in this new economy. Never before has the world undergone so much change, on such a global stage. As technology sweeps into the most remote corners of the world and the globalization of the Internet through new and improved wireless technologies brings people together with the touch of a mouse, the possibilities for both the clients and providers to the industry become endless. The world is now increasingly a global market and the barriers between countries are slowly being broken down by technologies that transcend geographical and political barriers.



Canada's Parliament building, Ottawa. A view from behind. Photo by Robert Oddi.

When the International Government Printing Association was created in 1988, the Internet was only marginally evident on the radar screen of the industry. No one could have predicted the impact that this new technology would have on the world. As we move forward in the new Millennium, the printing and publishing industry stands to be revolutionized by this new technology. As such, it is perhaps fitting that the upcoming conference of the International Government Printing and Publishing Association is to be held in Ottawa, Canada in

may 2001. Ottawa is home to a number of small start-up and some of the largest technology industry companies that are contributing and shaping the future of the Internet and the technologies that run the wold. The industry has grown to such an extent that it is expected that in the next two years, the number of high-tech workers in the city will exceed the number of government workers – a major transition for a formerly "government town".

The IGPPA Conference will expose participants to leading edge thinking and innovation in the areas of traditional and electronic publishing, security/value documents and smart cards, knowledge transfer, paper and ink technology, and organizational change, with some of the world's leading speakers. Participants will be able to discuss what they have learnt with industry experts or compare notes and best practices with colleagues from around the world. Unlike other events which are industry led and market driven, this conference is member driven and issue led. It is a forum for participants to find answers to specific questions that are relevant to their business issues.

The conference organizers for the upcoming conference have recently launched the first ever IGPPA conference web site located at http://www.igppaconference.org. All of the available information about the conference is located on this site and will be updated constantly as new information becomes available. Information about becoming a delegate, sponsorship, exhibiting and the programme is only a click away. As an added incentive to visit the site, the organizers have created a trivia contest which everyone is invited to participate in. For the benefit of those without easy access to the Internet, a hard copy of the contest accompanies this newsletter.

Conference Registration Packages

Members will have noticed that the 'Advance Conference Notice' inserted in the June Newsletter announced that Conference registration packages would be despatched to members' in August. This date was deferred however, on advice from the Conference Organiser in Canada. Conference Registration packages are now scheduled for despatch from Canada to all members at the end of October, around the time of the printing of this Newsletter. All members' should receive a copy therefore by the end of November 2000. For immediate information on the Conference, please consult our web site at www.igppaconference.org or contact Elizabeth Lesiak in Canada at (613) 993 9781 or E-mail: *Elizabeth.Lesiak@pwgsc.gc.ca*

Obituary

Russell Giles, Queensland Government Printer

It is with great sadness that the IGPPA Newsletter reports the death on Thursday, 21 September 2000, after a short illness, of Russell Giles, Government Printer of Queensland and General Manager of Goprint. Russell leaves behind his wife, Lyn.

Russell joined Goprint as the Deputy Government Printer and Manager of Print Division in 1977. He was appointed Government Printer and General Manager on 1 July 1999. During his time at Goprint Russell modernised the plant and equipment within the George Street complex, replacing hot metal with computer-assisted typesetting systems. The Printing Office was later relocated to Woolloongabba where new plant and equipment including computer-assisted printing presses were introduced. Russell installed a Production Management Information system throughout Goprint and successfully restructured the Operations Division.

Russell's major challenge was the transformation of Goprint into a customer focused Government-owned business unit. His enthusiasm was infectious. Russell was with Goprint for 23 years and in that time gained the respect and high regard of his staff, customers and industry colleagues alike. His contribution to the Queensland Government and to the printing industry, together with his many achievements at Goprint, are well known and will be missed.

Alex Nicholson, Deputy General Manager, has been appointed Acting Government Printer.

Goprint, Locked Bag 500, Woolloongabba, Queensland 4102, Australia, is an Associate Member of IGPPA.

The security designers' empire strikes counterfeiters back

New software tools for security designers and printers

Introduction

The JURA corporation is known by insiders for setting pioneering standards and completing missions that are said to be impossible *writes Gerhard Welley, Managing Director, Jura JSP.* A couple of years ago it was decided to target the not insignificant goal of developing software for engraving and a layout program for professional security designers.

GS Engraver Software

Engraving is one of the most important traditional graphical techniques. It first appeared in the fifteenth century as an illustrative support for budding book-printing, but very quickly became an art in its own right, thanks to its specific expressive power.

Jura believes that engraving, like other activities, can be regarded as a kind of workflow. Therefore, its steps can be analysed and algorithmised. Consequently it is possible to optimize workflow with the help of a computer.

With the help of this new software the 'conservative engraver' can spend more time on 'more interesting' and challenging areas in the engraving process. Also, it becomes considerably easy and quick to make several variations or to change the balance within different parts. Since this software has been developed for people whose job, traditionally, did not involve sitting in front of a computer, JURA wanted to reduce the 'computer-feeling'. Instead of using a mouse, the artist can draw with a pen-like tool using the pressure-sensitive tablet.

Computer interface of the Engraver Software

To obtain a user-friendly working area, a user interface was designed that is simple in appearance and operation. However, this does not mean that a portrait can be engraved without the experience and approach of an artist. On the contrary, the use of this software still relies strongly on professionalism.

The art of hand engraving has long been a main feature in the designer's graphic arsenal of tools and techniques. The Intaglio process which printed detailed images carved into copper by skilled engravers could never be effectively imitated or created by a computer. To fulfill this precondition with a digital method was the target to be reached by Jura with the help of Glenisys.

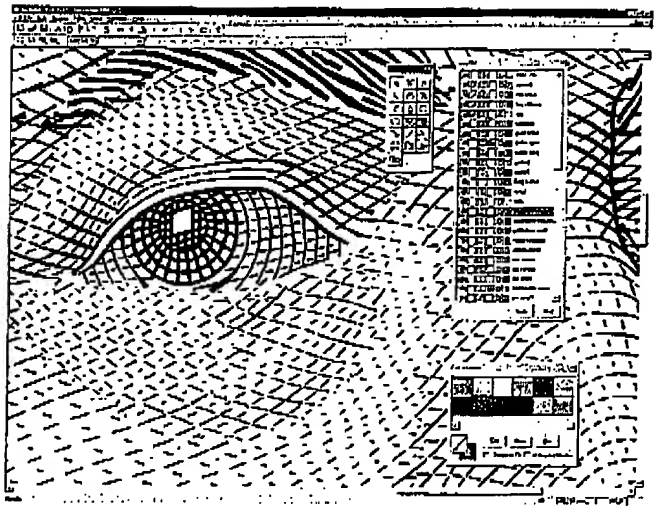
Details of the Engraver Software

The target: starting from a digital photo or hand-drawn graphic of a person (or any other graphic 'object'), a faithful reproduction is needed relying on the technical achievements and techniques that traditional engravers used in the past. The resulting 'digital-engraving' should be visually pleasant and the character should be recognizable.

The main rule for creating portrait engravings: the directions of engraving lines follow facial features. This rough layered engraving, combined with cross-etching, forms the basis for this software. Engraving offers a large set of expressive tools for visual contrast enhancement.

Combining sophisticated Spline and Bézier curve handling can greatly improve the quality and artistic level of digital engraving (variable

technique, with the effect of mixing mezzotint and regular etching, using different line patterns and styles, variable stroke width, tapered structures, changing the direction and frequency of the lines).



Zoom-in feature of the Engraver Software

To be attractive for a final user – namely a graphic artist or engraver – a powerful graphical user interface was developed, featuring layer construction guidance, tonal control of masked structures, simple and intuitive mapping of the pre-defined styles and an extensive set of specialised tools.

Short description of main software features

(i) Input: Scanned or hand drawn grayscale original;

(ii) Creation of a 3D wire-frame on top of the scanned template;

(iii) Variable line-weight automatically match density with a scanned image.

With morphing and manually controlled distortion modules the artist can build up a multi-layered line structure on top of a scanned template (3D wire-frame artwork). The wire-frame artwork includes the main and secondary guideline structure. Variable line-weight automatically matches the density of a scanned image. The application breaks the continuous variable-width structure into engrave-style tapered or dashed lines using the user definable presets.

The tasked line parameters are controlled by the artist, and fully calculated by the computer. The engraved structure can be generated automatically or can be user defined with secondary guide-lines.

Engraver summary

- Highly sophisticated individual artistic process software;
- Strong support for the visual 3D-imagination of the designer;
- Technical know-how of the intaglio printing process;
- The conversion of the virtual 3D portrait into a 2D image;
- Window based graphical user interface;
- Detailed engrave-style structures with total control of Intaglio printing's line thickness limitations;
- Speeding-up and optimizing the engraving process;
- Acceleration of the necessary final modifications;
- Highly cost-effective when resizing and re-origination of a pre-existing engraved image;
- New artistic tools in the hands of the modern security designer;
- Fully digital workflow integration.

Computer Hardware Requirements

- Dual processor (Intel Pentium III) with PC Windows 2000;
- Optional tablet.

Other Hardware Requirements

- Laser Imagesetter (high resolution (2.540 – 10.000 dpi) with and extremely sharp laser beam).

Intaglio Plate Making

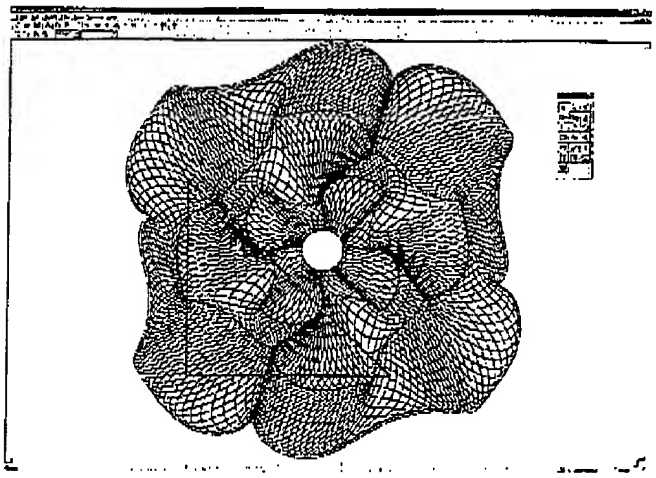
- Enhanced etching technology;
- Rapid plate-making.

designers and printers

Jura's experience of nearly 15 years in security printing and requirements of their customers has revealed that commercial layout programs do not meet the special requirements of security design.

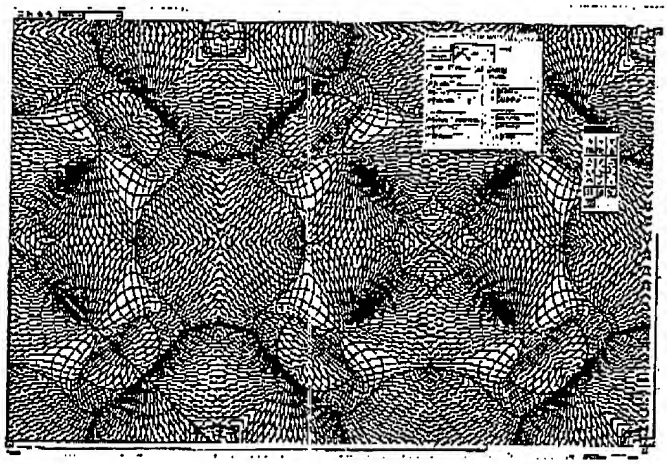
The wide range of knowledge accumulated in the Jura company and strong skills of their developers enabled the creation of *JSP® Layout Design & Assembling for PC* software after three years of development. This application excludes the disadvantages of commercial layout software and is able to offer a wide selection of special tools for designers.

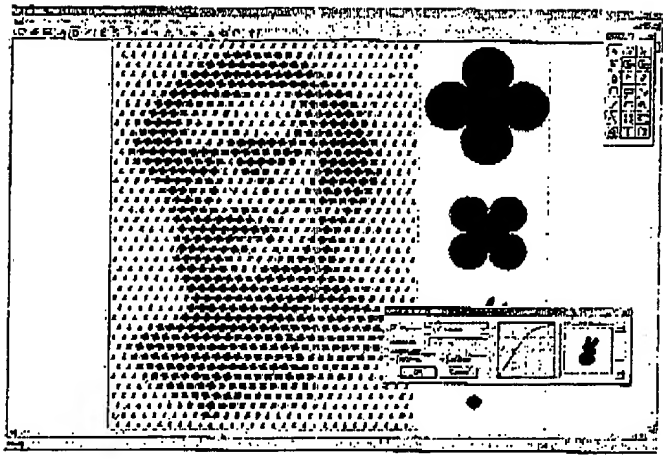
These features make the software easy to use and guarantee maximum efficiency. The optional usage of a pressure-sensitive graphic tablet gives the designer or graphic artist the feeling of a pencil or pen.



The new GS Layout software is a modular application with standard PostScript output, based on the most widely used Windows platform. With this development Jura has focused on the most common requirements of security printing, like accuracy of calculations, handling large-size files and complex vector curves.

This software includes most of the basic functions of well-known layout applications and a lot of extra toolsets have been developed specially for security designers. With the help of these tools most of the steps can become dramatically fast and simple (in the usually complicated and time-effective security design-making procedure). Especially like drawing a free-hand sketch on a sheet of paper.





Special toolset for security designs

Selection tools

Object, group, node, line and lasso select, selection of repeated elements of a group.

Transform tools

Mirror: special interactive tool for easy and quick creation; complete Guilloche-frames from one element.

Kaleidoscope: dynamic creation of patterns from different shapes with variable repeating rules.

Distortion tools

'Smoother' and linewidth smoothing tool: especially useful for 'fine-tuning' of line screens and grids or reproduction of irregular Guilloche-elements.

Free form distortion: variable distortions based on modifying a user definable distortion grid.

gradients and user definable grayscale images and their combination.

Path tools
Increasing or decreasing the number of nodes on a selected object.

Layout summary

- High accuracy calculations;
- Effective large file processing without problems;
- Special toolsets for security design;
- Speed optimization;
- Modular structure;
- Vector and pixel graphics processing;
- Vectorization of pixel images with extremely high accuracy;
- User programmable plug-ins;
- Customizable interface;
- Free-hand input with pressure sensitive tablet;
- Easy to learn and operate;
- Standard PostScript Level 3 output;
- Fast save in binary format;
- Adobe Illustrator® file export and import.

Jura JSP GmbH, Gebhardtgasse 13, 1190 Vienna, Austria, is an Affiliate Member of IGPPA.

Protection, counterfeiting and falsification

Protection of printed documents has become a more and more important topic in recent years. In fact with the help of scanners and Xerox machines, falsification and counterfeiting have reached a significant level and should be combated with all possible means *reports Jean-Marie Cosquer, Sales Executive, Petrel.*

For the benefit of the security printer and its customers, security documents are now being printed mostly on security paper (solvent reactive paper with visible or invisible and fluorescent fibres) and with security inks that are impossible to purchase on the standard ink market.

With the research of our team of engineers, Petrel has developed a full range of security products mainly for fiduciary use. Petrel inks are tailor-made to meet almost any customer requirement (invisible and fluorescent under UV light, erasable, sensitive thermochromic, photochromic, and so on) and in order to make things harder for counterfeiters, Petrel will always advise you to mix several printing processes for the same document. Printers have to face several different fraudulent attacks.

Falsification of documents

The aim of the forger is to be able to remove and modify an inscription which will allow him to use the document in a fraudulent way. For example, modify an already filled bank cheque and put his name as the beneficiary. Petrel fugitive and erasable inks will reveal this forgery.

Those people can be divided into two categories:

- Amateurs; who will crudely falsify their train or bus ticket, students who will modify their bulletin. These falsifications will be easily identifiable but will pass often by negligence.
- Professional; they are better organised and often have skills in chemicals. They will understand falsifications which are very

can represent huge amounts of money in the case of bank cheques. These professionals are organised to share the results of their falsification, using most of the time, complicity in distribution networks.

Counterfeiting of documents

The counterfeiter will not try to modify an existing document but will do his best to produce a copy. For this purpose, he needs to be able to reproduce it as accurately as possible. For example, fake bank notes. The counterfeiter must find the right paper and suitable security inks. Petrel's target is to supply innovative inks to bona fide security printers and to deliver only to those who are secured printers. In this security field, very narrow and closed, we have to point out that security paper, ink and hologram manufacturers will never supply an uncertified printer.

The counterfeiters will try to produce fake vouchers, fake football tickets and so on but the quality of the copy will very much be dependant on adapted raw material.

Petrel customers have also to fight against photocopies. For this purpose, we produce inks that cannot be read and/or reproduced correctly by Xerox machines (orange anti-copy, invisible and fluorescent inks, iridescent inks and so on). Colour photocopy machines usually work with three or four toners (black, cyan, magenta and yellow) which allow them to reproduce any coloured documents.

Our aim is to produce inks that will allow anyone to see the difference between an original and a copy. For this purpose we produce:

- Iridescent inks (printable in flexo and screen). These inks have a flip flop effect on the original document and it disappears on the copy;
- Orange anti-copy: this special orange colour (orange fluorescent orange) will turn yellow or brown on the copy;
- Metallic colours (Xerox machines cannot produce metallic colours);
- Thermochromic inks. These inks are printable in all processes. Their characteristic is to be coloured below a certain temperature and discoloured above this temperature. This particularity is available in 15 different temperature changing points from -15°C to +58°C. This effect will not be available on copies.

More inks are available for securing documents against forgery or counterfeiting and the list of them is under perpetual development and vast enough to find the right solution for a particular problem. This protection will be accordingly improved as more than one ink will be used, thus accumulating difficulties for the forger.

This protection bears an over cost which can be high but has to be balanced against the problems arising from a counterfeit document. To be totally efficient, the fight against fake documents should be carefully followed up by making use of all possible control tools linked to chosen security inks.

In the past 15 years, Petrel has become the leader on the French market for bank cheques, meal vouchers, car registration certificates and so on. Our reputation has allowed us to be more and more present in other markets and Petrel export turnover is growing rapidly.

Petrel, 21 Rue des Cerisiers, Z.I. de l'Eglantier, 91090 Lisses, France, is an Affiliate Member of IGPPA.

Gazette – from print to Internet

Although the Hong Kong Printing Department was established 48 years ago in January 1952, the history of printing the first Government Gazette stretched back to March 1841 *writes K. C. Ng, Printing Superintendent (Development), Printing Department, Government of Hong Kong Special Administrative Region*. It started to appear in the newspaper, 'Friends of China' and later transferred to 'Hong Kong Register' and 'China Mail'. The Government Gazette was a supplement of the newspaper published on every Saturday until 1853; it then became a separate entity with the flourish of government business.

After 159 years the Government Gazette in the new millennium is published on every Friday in Chinese and English consisting of seven sections: the Main Gazette (Government Notices); Legal Supplements No. 1, 2 and 3 which contains Ordinances, Regulations and Bills respectively; Special Supplement No.4 (periodical lists of registered professional persons, etc); Special Supplement No. 5 (draft Bills, Executive Orders, Orders of the State Council, etc.); and Supplement No.6 (private Bills, public notices and advertisements). The publication in the year 2000 has more than 22,000 pages with over 40,000 pieces of information.

On 19 May 2000, the Main Gazette and Supplements No. 1, 2, 3 and 5 were available for viewing in Portable Document Format (PDF) on the Internet: http://www.info.gov.hk/pd The Supplements No. 4 and 6 are planned for launching by the end of the year. Traditionally, web pages are created in a coding language called Hypertext Markup Language (HTML). In our case it is not possible to use HTML because the Government Gazette is published in Chinese and English. For instance, the Laws of Hong Kong is read with both versions on the same page or side by side on facing pages. The reader can compare the contents between the two different languages as they both have equal status. Apart from that the English text has Chinese words (characters) enclosed in brackets to show the translation of the terms or expressions, the Chinese text also contains English words for the same reason. The situation is made even further complicated by many of the Chinese words commonly used in Hong Kong are not contained in either Big-5 or ISO 10646 standard character set.

PDF to display the Chinese characters with fonts embedded in the file. PDF can maintain total integrity of the format and typefaces of the Government Gazette which is output by QuarkXpress 3.3 TC (Traditional Chinese) using Monotype Postscript Fonts. Another reason for using PDF is the time constraint. We would like to see the Electronic Gazette (eGazette) published on the same day as the printed copy. It is therefore best to convert the web pages direct from the same postscript files used for printing.

Since the main objective is to facilitate public to access the information contained in the Government Gazette easily; with the help of a search engine, it is possible to find the materials by using the relevant keywords. The files are also prepared for readers to be able to see the text immediately while waiting for the download to finish. Hyperlinks are created for connection to the homepages of the government department which issues the public notice, and also to the Bilingual Law Information System (BLIS) which provides the complete set of Laws of Hong Kong for viewing. Hyperlinks are also embedded in the BLIS to read the legal notices for the new legislation or amendments published in the Gazette to see the enactment history. The website of eGazette can also be accessed from the Government Homepage, homepage of Printing Department and websites operated by private sector.

The design work for uploading of the eGazette to the Internet consists of two parts: the website and the index management system. The eGazette website consists of a set of HTML pages that presents the whole website to the Internet for browsing and a set of CGI (Common Gateway Interface) files to generate the table of contents as well as to provide the search functions.

The eGazette is a bilingual publication. Readers can switch from Chinese to English, or vice versa, to see the same piece of information in a different language at the click of a button. Search function provided by the website is a free form of searching. There are two search engines: one for government notices in the Main Gazette and another one for information in the Legal Supplements. The reader can enter the keywords for the title or issuing authority/officer, and with or without the more specific information such as the issue number, notice number to start the search. The system will find all the notices that match the search strings from the index files.

The eGazette Index Management System (EIMS) is a web-based system. The public can use a low version popular web browser such as the Netscape 3.0 or Internet Explore 3.0 to read the eGazette. The PC server in Printing Department is installed with a Red Hat 6.2 Linux Operating System, the Apache HTTP Server and MySQL Relational Database Management System.

The Red Hat Linux Operating System, Apache Web Server and MySQL are all open source software and free to be used by the public under the GNU Licence. Besides being free, open source software packages are available for a wide variety of computing platforms and the codes can be easily modified or expanded to meet the needs of any site. In fact, more than 50% of the websites are hosted on Apache Servers.

The programming languages used in the system are HTML, Perl, PHP and SQL. When the typesetting is completed and ready for printing, the technicians will convert the contents of the Government Gazette from the QuarkXpress files to Adobe Acrobat PDF files and to create the indexes (pointers) for the PDF files. A naming system is designed to set up a flexible and persistent file tree for clarity and ease of management. As the eGazette is hosted by the GIC Server operated by the Internet Resource Centre of the Government and linked with many other external sites, meetings were held with relevant parties to adopt the established convention as well as to avoid any conflicts with other websites.

After the creation of the index, a directory for the issue of the Gazette will be generated by the EIMS. The technicians then copy the PDF files in the generated directory. The index files of the eGazette consisting of the table of contents and the linking to PDF files are then "proof read" for accuracy and completeness. Any errors can be corrected at this stage. When the checking is completed the index files can be downloaded using the EIMS. The current issue of the eGazette is now ready for uploading to the GIC Server through the SCIG (Security Central Internet Gateway). There is a 512Kbps dataline connecting the Printing Department and the SCIG. When the transmission is completed the current issue is live on the eGazette website with all the back issues created since 19 May 2000.

The website for eGazette also consists of a disclaimer page, sections for What's New, FAQ and Help with e-mail address for enquiry. Since the eGazette is uploaded to the Internet, the number of visitors to the eGazette website and the homepage of Printing Department has increased drastically. We have more overseas viewers, mainly from the US, and many enquiries from the public related to the contents of the Government Gazette. The feedback has, among other things, prompted us to remove the restriction on printing the eGazette. The print run of the publication is reducing from previously over 4,000 sets to just 3,500 sets with more reduction anticipated when government departments are asked to further trimming down their requirements.

We expect the hit rate to the website currently at 44,000 a month will rise again when the Supplements No. 4 and 6 are also uploaded to the Internet. The Supplement No. 4 consists of lists of professionals and institutions. Most of them are not subscribers of the Government Gazette but they can now see their names published on the eGazette. Likewise, the public who place their advertisements on Supplement No. 6 can also see the notices without having to obtain a printed copy.

Besides the development of the website, Internet technology can also improve our efficiency in the production of Government Gazette at the backend. A pilot study will be carried out to set up a system for government departments to submit their printing orders through the Central Cyber Government Office (CCGO), the Intranet of the Hong Kong SAR Government. In future, the placement of the government notices, sending and receiving proofs will be transmitted on-line in real time using the Public Key Infrastructure (PKI). The system will also ensure the integrity of document, to prove the identity of the authorised person and non-repudiation of the submission. The development will be able to streamline the workflow, shorten the lead-time and reduce the costs in production.

Printing Department, Government of Hong Kong Special Administrative Region, Cornwall House, Taikoo Place, 979 Kings Road, Quarry Bay, Hong Kong SAR, is a Member of IGPPA.

philippines

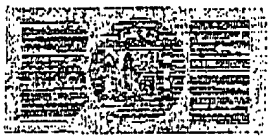
National Printing Office exclusive authority to print for government

The National Printing Office (NPO), established in 1901, is a government agency under the Office of the Press Secretary. On 19 November 1998, Memorandum Order No. 38 issued by President Joseph E. Estrada gave the National Printing Office exclusive authority to print and distribute all accountable and standard forms of national, provincial, city and municipal government and government-owned and controlled operations *writes Melanio S. Torio, Director NPO.*

Since the onset of the NPO, it is consistently and continuously striving to realize one of its goals or objectives which is to improve the overall standards of the printing industry in the Philippines. Thus, with the support of the national government, the NPO's comprehensive modernisation programme is currently on-going, making it in the process more efficient and globally competitive.

The NPO aims to be successful in its vision to be the sole regulatory printing arm of the government committed towards the satisfaction of its printing needs. This emphasises the role of the national Printing Office as an agent for the information dissemination campaigns of the government. The NPO engages in the nationwide weekly publication of the Official Gazette, which contains all legislative acts and resolutions of a public nature, all executive and administrative issuances of general application and decisions or abstracts of decisions of the Supreme Court and Court of Appeals among others. Likewise, the NPO also performs the printing jobs of pertinent information materials in relation to the President's policies and programmes including official papers during his state visits to other countries. Aside from these, the NPO also engages in the printing of election ballots in all electoral exercises as well as development information materials of the Philippines Information Agency, which is also under the Office of the Press Secretary. These undertakings have continuously benefitted the Filipino people.

National Printing Office, EDSA Corner, NIA North Side Road, Diliman, Quezon City, Philippines, is a Member of IGPPA.



Legislative information within everybody's reach

Complementary to its essential role as a means of publicising legal provisions and other official announcements, the Boletín Oficial del Estado (BOE) or Official State Gazette has, over the course of time, and in line with the latest developments of current technology, provided different services of information and assistance for citizens *writes Maria Jaudenes Casaubón, Head of the Area of Documentation and Information, BOE.* These services are supported by databases that analyse and structure the journal's information. Moreover, these databases constitute the most traditional of the BOE's electronic publishing products. The BOE's most well-known legislative database, *Iberlex*, has been published since 1986, although it was started in 1968.

Using the databases, and with the support given by the centre's library, which has a large collection of official publications and old legislation, the Gazette attempts to satisfy three different kinds of requests for information: those from individuals and from the Public Administration, who need to know specific information that is published in the BOE; those from users who require selected, complete and up-to-date information on specialized matters; and, finally, those from the Gazette itself, which it provides with information and document location services.

The carrying out of all these activities forms part of the duties of the Area of Documentation and Information. Comprising a staff of 38 people, of whom approximately half are specialised documentalists and jurists, it is organised around two groups of activity: the production and maintaining of databases, and the legislative information services.

The database production service is responsible for carrying out legal and documentary analysis of the provisions whose provenance is the BOE or other sources of legal content, and which are incorporated into the databases containing national and European Union legislation (*Iberlex* and *Iberlex-UE*) and other databases that contain the other sections of the BOE (*Personal, Indilex* and *Publiboe*). In this way, the databases become value-added services. Furthermore, this service is in charge of helping users and of defining functional specifications relative to the structure of the information and access to the databases, as well as analysis of other sources of information that can serve to enlarge the coverage or the content of our bases. The databases are published on the Internet (http://www.boe.es) and those with a legislative content are also published on CD-ROMs, both of which are services provided in return for payment.

In 1997, a new database project called *Gazeta*, was started up. Its contents are historic in nature, and it was designed to contain all the official newspapers of the state administration published in Spain from the 18th century until 1967 (as of 1968 legislation began to be included in *Iberlex*). At the present time *Gazeta*, which will be made available to the public at the end of this year, contains the official daily papers published between 1931 and 1967. It consists of more than 500,000 TIFF pages and approximately the same number of provisions from a historic period that covers the Spanish Second Republic, the Civil War and most of the Franco period. In order to properly preserve paper copies and offer better access to information and the documents in their original format, *Gazeta* is a project proposed for obtaining a collection of images linked to textual information, structured into fields. Because it is so complex, the project is envisaged as a plan lasting for several years.

A preliminary study was conducted in 1998 that made it possible to know the volume of information to be processed (about 1,500,000 pages) and the formal characteracteristics of the gazette throughout its history: its contents, structure, formats and the state of preservation of the holdings. Comparative digitalization tests were carried out on microfilm and paper, in order to assess the quality of the results, and OCR tests were performed on pages dating from different periods. The results of the OCR tests were not very convincing.

Gazeta is primarily a tool for access to the *Boletin Oficial del Estado* prior to 1968. But in order for *Gazeta* not to be merely be an index of images, but a publication in its own right, it is accompanied by exhaustive documentary work of revision, polishing, and selection of the provisions to be analysed, as well as the establishing of criteria for legal, historic and documentary analysis and the conducting of actual analysis.

As mentioned above, the BOE's documentary databases are a published product, but also a tool for access to the information on which the BOE's legislative information services are based. The main activity of the legislative information service is aimed at the man in the street, for whom three means of access to official information are maintained: the library, a telephone information service, and the web page.

The library reading room takes the form of a classic service of on-the-spot personal assistance. Equipped with computers for direct use by users, the entire bibliographical holdings of the library can be consulted there, and copies obtained. During the first half of this year, nearly 3,500 users visited the consulting room and about 173,000 photocopies were made. Moreover, the library holds a special collection on graphic arts and official publications and offers *Boletin* employees a home-lending service and a service for the purchase of books and professional journals.

The General Assistance telephone service answers questions on what has been published in the daily paper, as well as questions concerning the BOE itself. It is a very important service from the standpoint of its social repercussions, given that telephones are currently the most universal means of access to information. Nearly 50,000 calls were received during the first six months of this year, 65% of which referred to legislation.

Towards the middle of last year, the BOE was equipped with a modern support installation for setting up a call centre. The call centre equipment made it possible to know how the service was really working (the number of incoming calls, the percentage of calls answered, the peak hours, the average duration of calls, etc.). In order to improve the service, the number of operators was increased and more importance was attached to training. Through these measures, it has been possible to go from answering an average of 33% of the incoming calls to answering more than 60%, with an average waiting time of 18 seconds and 51% of the calls answered within 15 seconds.

Furthermore, the BOE is considering the renovation and improvement of its legislative information services and access to documents. This renovation will primarily be for the benefit of those people who do not have access to Internet, and will include the redefinition of the telephone assistance service. In order to increase the number of calls answered, reduce the waiting time and open up the possibility of accessing more services by telephone, different options will be offered in respect of information, as well as the opportunity to request, pay for and receive a photocopy of a provision by making a single telephone call.

Currently a reprography and document-distribution service is offered that takes care of requests for information by conventional means (fax or post) or by e-mail. During the first six months of 2000, nearly 4,500 requests were met. It is currently possible to request documents by Internet, but the requests are not managed in an integrated and automated way. Therefore, work is now being done on a new Internet service through which users will be able to carry out information searches through the *Indiboe* database, which is free of charge (the service is currently available in <http://www.boe.es/wais/sumarios.htm>), and have access to the collection of BOE images. This is free of charge for documents published as of 1 January 2000, but will probably be subject to payment for retrospective information. This service will carry out automated management of requests and the sending of documents.

Moreover, the BOE provides a Specialized Legislative Information Service mainly for professionals, companies and research. It includes a Selective Information Dissemination service (SID) through which customers can subscribe to an Information Alert service tailored to their needs, whereby they receive daily information published in the BOE, corresponding to the subjects in which they are interested.

The BOE's Internet offer free of charge has meant that the Area now faces the need to reconsider the information services with a view to making them more flexible and more specialized. Therefore, using Internet and the possibility of e-commerce as the main tools, a new Selective Information Dissemination service has been designed that will initially have a catalogue of profiles of competitions and public auctions, organised by subject, which will be managed automatically.

All the activity of production of access tools to the information of the BOE (both historic and current) is geared to the objectives of the Green Book on Public Sector Information in the Information Society, published by the European Commission, and seeks to offer diversified quality services that are within the reach of everybody. Therefore, a project for introducing a System of Quality Management in the production of documentary databases and in information services has been put into operation.

Boletín Oficial del Estado de España (Biblioteca), Avda. de Manoteras, 54, 28050 Madrid, Spain, is a Member of IGPPA.

switzerland

Swiss help French team to victory in Euro 2000

Even though the Swiss did not actually qualify themselves for the European football championship Euro 2000, they played an important role in leading the French football team to victory *reports Simona Gambini, Marketing Manager, Landqart.*

Just like the preparations made by the French football team to ensure victory, the groundwork for a secure and well organised Euro 2000 event was based on teamwork, especially with regards to production of the entry tickets.

To ensure all fans (more than 1.2 million tickets were produced) got what they deserved – a seat in the stadium to watch their favourite team play and hopefully win – a lot of planning was required beforehand. One important detail was that a falsification proof ticket was needed to make Euro 2000 a really enjoyable event for all concerned.

In December 1999, Landqart® a Swiss based security paper producer together with its sister company Sihl Düren/D, won the tender for production of the security paper. In co-operation with the security printer Joos from Belgium, the company was responsible for the overall planning of a new event ticket with excellent overt and covert security features.

Adverse experiences during the World championship in Paris in 1998 resulted in higher security expectations for Euro 2000. Landqart known for its high quality security paper (including Swiss banknote paper) offered a tailor made solution according to the requirement of the official UEFA organisation. Sihl Düren refined the paper with a special foil and Joos applied the different printing techniques with the necessary information (game, date etc) onto the ticket. All this had to be discussed, planned and produced in less than four months.

Members of the Dutch national team

Now, some three months later, it seems we did a good job. Only a few counterfeit tickets appeared during the games and thanks to the excellent security features, such as Irisafe® included in the tickets, it was easy for officials to tell the genuine tickets from the fakes.

Sihl Landqart, CH-7207 Landqart-Fabriken, Switzerland, is an Affiliate Member of IGPPA.

united kingdom

Carol Tullo, Controller HMSO

Knowledge economy, government information and publishing

These phrases are at the centre of Government initiatives to ensure that UK PLC is a fully Internet-enabled economy. Those of us with information handling responsibilities have our part to play in delivering the Government's e-strategy. The process of liberalising access and reuse of government information has gathered momentum with the increasing emphasis on online access and Web delivery *writes Carol Tullo, Controller HMSO.*

E-Government

The Government published its e-Government strategy for information age government in April 2000. It applies to central government departments and agencies, local government and the NHS. It is available on the Internet at www.iagchampions.gov.uk/Strategy.htm

It fulfils the commitment in the Modernising Government White Paper (Cm 4310 March 1999) to publish a strategy for Information Age Government. It focuses on better services for citizens and businesses and more effective use of the Government's information resources. Implementing it will create an environment for the transformation of government activities by the application of e-business methods throughout the public sector. The strategy challenges all public sector organisations to innovate and it challenges the centre of government to provide the common infrastructure which is needed to achieve these goals. The strategy is endorsed by the Information Age Government Champions.

The Information Age Government Champions are a group of 35 senior officials from across central and local Government tasked with taking forward the Information Age Government strand of the Modernising Government Agenda in order to meet the Prime Minister's targets to make Government services e-capable by 2005. Their role is to oversee the development of the corporate IT strategy for Government, ensuring that it focuses on the needs of citizens and business, and taking ownership on behalf of the Government. If you would like further information about these developments, then there are links on the Cabinet Office website [www.cabinet-office.gov.uk], the website of the Office of the e-Envoy [www.e-envoy.gov.uk] and at www.iagchampions.gov.uk The e-Envoy owns the e-government strategy and identifies new opportunities for cross-government IT initiatives and how they should be carried forward.

Information is the fuel of the knowledge economy

Government information is the largest information resource available to the UK. Patricia Hewitt, Minister for Small Business and e-Commerce and Andrew Smith, Chief Secretary to the Treasury co-chaired the Government's Review of the Knowledge Driven Economy as part of the UK Spending Review 2000. A Review of Government Information fed into that wider Review and completed in June 2000.

New plans to boost the Knowledge Economy were announced on 6 September 2000:

- click-use-pay online class licence giving a simplified system of licensing and pricing for Government information;
- a move to marginal cost pricing for the reuse of government information excluding trading funds;

- improved pricing and dissemination of information from Trading Funds;
- enhanced regulatory role for a repositioned HMSO working closely with an Advisory Panel drawn from the public and private sectors;
- increased momentum for Information Asset Registers linked to HMSO's inforoute website;
- information to be made in digital format wherever possible.

None of this has emerged from a vacuum. Since 1997 there has been a constant evolution of information policy as moves to open up access to official information gathered pace.

Strong messages from the business community had reached Ministers demanding:

- one stop shop;
- transparency;
- ease of use;
- no veto or prior application for reuse;
- level playing field.

How did we get here?

These announcements did not emerge unexpectedly:

- White Paper on the Future Management of Crown Copyright (Cm 4300 March 1999) which introduced waiver of copyright on large categories of official material and established a User Group;
- HM Treasury launched the Wider Markets Initiative [Selling Government Services into Wider Markets] in July 1998 which provides incentives encouraging departments to make their materials available with public/private sector joint ventures;
- The Prime Minister published a strategy for e-commerce success e-commerce@its.best.uk (September 1999) which recommended further simplification of licensing of government information and the adoption of a wider class licensing system;
- On 11 September 2000, the Prime Minister launched the UK Online Report and the Performance and Innovation Unit Report on Electronic Service Delivery was also published.

UK Online

The Office of the e-Envoy within the Cabinet Office is leading the drive to get the UK online. The Office consists of three teams:

- e-Government – information age government;
- e-commerce – overall UK e-commerce environment;
- e-communications – Government's online presence.

UK Online is the government portal, a gateway for the citizen to access Government services. It has three layers, the government systems and the data interchanges standard specifications; the government gateway which does much of the joining up of information sources and finally the interface to the citizen – UK Online. This service will provide a personalisable front end to the portal so that citizens can tailor what they see to what they need. A test service was developed this year. A fully operational service will run from the summer of 2001.

The project board was chaired by the e-Envoy. It included representatives of key stakeholder departments and local government to ensure that the UK Online site is developed in a way that is consistent with both existing and planned online services.

This is all designed to support the Government's goals for the Knowledge Economy:

- making the UK the best place for e-commerce;
- putting all Government services online by 2005;
- universal access to the Internet, for all who want it, by 2005.

These are all new measures to encourage a dotcom culture in Government and to help the private and voluntary sectors deliver government services to the citizen.

Government's information handling strategy is an integral part of the UKOnline strategic goals. Many of the actions relate to matters for which the devolved administrations in Scotland, Wales and NI are responsible however, HMSO's remit and portfolio of responsibilities extends UK wide ensuring a key expectation for potential users of information – consistency and coherence in practical implementation.

Marginal cost pricing

The move to marginal cost pricing is radical sending a signal that the Government is serious about playing a full role in the development of the Knowledge Economy. With marginal cost pricing, the Government bears the costs of obtaining the information for the original government policy purpose but reusers are charged only any additional costs – staff costs and other costs involved in data preparation and distribution. In practice, much government information will be available at nil cost as it can be freely reproducible from official printing sources under waiver or existing liberalisation and downloaded from the Web.

Official publishing continues as does value added publishing where government competes equally in the open market place.

How will this work in practice?

The spotlight will be on:

- exceptions to the class licence;
- distinctions between value added publishing and raw or core official publication of information;
- delegations of authority which will be rescinded to provide a centralised one stop shop approach via HMSO and the class licence.

It is trite to say "it is that simple" – varied patterns of delegation and the historical constitution of government bodies make a complex mix. There is much detail to work through in the coming months to give practical effect and teeth to government policy.

The repositioned HMSO

HMSO is indeed driving forward the Government's commitment to widen access and encourage the use of official information [as our e-mail rubric states].

Changes afoot for HMSO:

- 4 Divisions: Finance & Quality
  Licensing
  Publishing and Information Services
  Regulation
- Task forces for Trading Funds
- Faster implementation of the Government's Information Asset Register designed to guide users to official information via the www.inforoute.hmso.gov.uk website.

If we take the jargon away – HMSO is government's advisory arm on information and publishing. The broader regulatory remit announced in September will come into full operation in April 2001. Liaison and discussion on the practical implications for government departments and the wider public sector are just starting. If you would like to sample our work do access our website: www.hmso.gov.uk

Her Majesty's Stationery Office, St. Clement's House, 2-16 Colegate, Norwich NR3 1BQ, United Kingdom, is a Member of ICPPA.

OVD's provide fast track ticket security

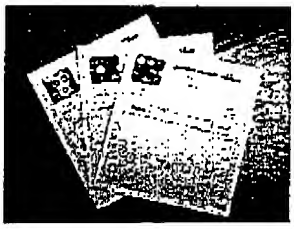
Astrid Mitchell of Applied Optical Technologies plc, whose specialist division Applied OpSec supplies security foils, describes how optical security solutions are becoming increasingly popular among public transport organisations to protect travel tickets against attempts at forgery and counterfeiting.

The use of diffractive optically variable devices (OVDs) to protect the authenticity of tickets has stood the test of time, with public transport authorities the latest sector to take-up the technology.

The most common and well-known form of diffractive OVD is the hologram, which was first introduced on tickets around 10 years ago following its successful use as a security feature on credit cards and, in the UK, cheque guarantee cards.

One of the initial driving forces behind the use of holograms on tickets was in the events sector, where there was a need to avoid multiple sales of forged versions of the same ticket, with consequent overcrowding problems, infringement of statutory regulations and the potential loss of public event licences. Among the earliest users in this sector to incorporate security foils on tickets for major events was Wembley Stadium in London and the immediate results played a major role in establishing the highly effective security reputation of holograms.

Since then continuing technological advances have made diffractive OVDs increasingly successful in protecting tickets from counterfeiting and they now play a leading role alongside traditional security printing features in the authentication of sporting, entertainment and travel tickets world-wide.



Four critical aspects of diffractive OVD development continue to enable new security solutions to be found for modern ticketing demands, with optical image origination, materials science, application compatibility and cost considerations all playing their part.

When holograms first made their appearances on tickets, they were usually supplied in the form of a hot stamping foil, which was blocked onto the face of the ticket, usually as a patch over the perforation between counterfoil and ticket.

Larger organisations tended to use their own customised images, whilst smaller users would use security printers' generic images and ring the changes in the shape of the blocking die.

This form of protection still prevails, but as the use of security foils has spread from single event or trip tickets to season tickets and others, more complex origination techniques have been developed to increase security levels and improve visual recognition through more creative and distinctive kinetic effects.

Although there are some individual origination techniques which offer high levels of security, multiple imaging origination processes have been introduced which combine different techniques in a single image, making successful counterfeiting exceptionally difficult, if not impossible.

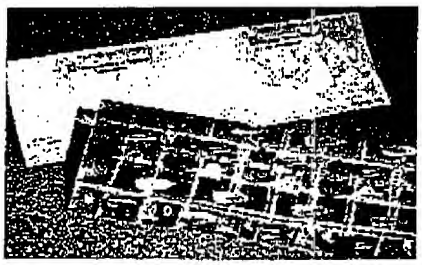
Selecting the most appropriate form of protection for different tickets is becoming increasingly important and for some travel applications there has also been a move towards including recognition devices within the OVD itself – information that can be accessed to verify the image often using machine-based reading systems.

These devices can range from an optical on/off switch feature (which provides straight forward positive/negative verification within the image) to covert or machine activated features.

From the initial levels of protection provided in the form of hot stamping foils, the next major advance was the introduction of films capable of combining secure OVD images within the thermal ticket production process.

This specialist technique was developed in association with security printers Henry Booth & Co. of the UK and involves the application of a wallpaper OVD pattern over the whole surface of thermographic paper stock. The optical image, which forms the reverse side of the ticket, can be overprinted with terms and conditions and remains unaffected by the thermal printing process used to impart the seating or travel details on the face of the ticket.

As an alternative to the blanket coverage of one side of the ticket with a secure image, more recently diffractive OVD stripes have been introduced, which are slit to register, applied down one side of the tickets and integrated with security printing features on the ticket stock for maximum security.



Whatever the form of OVD protection provided for tickets, the compatibility of the carrier material with the ticket stock and speed of application are critical.

OVD foil manufacturing and conversion technology is highly complex and specialist materials have been developed to meet the needs of different paper types used in ticket production and printing.

Specialist security films and hot stamping foils are now available which are compatible with both laser and thermal printing processes used to apply the variable data to ticket stock. In addition, collaboration between OVD manufacturers and equipment suppliers has ensured that films and foils possess the easy release properties required to meet the high-speed throughput rates of modern automated printing plant.

The complexity and security of the image itself is only part of the story. The subsequent application of the optical device to the ticket stock by the printer has and always will be a highly important factor. It should be automated, easy, fault free and cost effective.

Undoubtedly one of the major reasons that OVDs have prevailed is that films and foils have been developed which meet these criteria. In addition, machinery suppliers have reacted to market demand for secure images by developing equipment specifically for the application of holograms or other OVDs.

This solution approach with optical materials manufacturer, machinery supplier and printer working together continues to gather pace. For example, Dimuken introduced the first dedicated application system for holograms back in 1993, and now several companies offer systems with varying speeds, capabilities and prices. In Dimuken's case, its in-line web fed foil blocking systems are capable of applying single image OVD patches to ticket stock with or without sprockets at the rate of 40,000 images per minute.

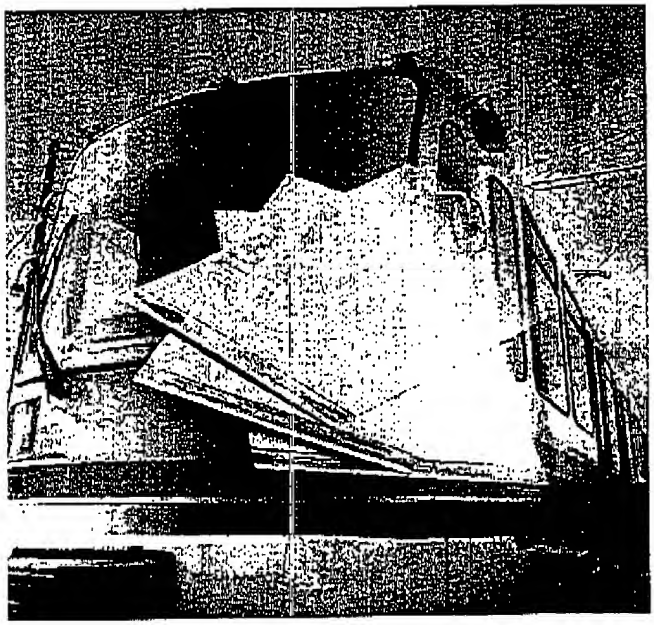
For more complex applications, high-speed foil application systems have been developed which are capable of applying multiple OVD stripes to thermal tickets in register and in a single pass at rates of over 200 feet (70 metres) per minute.

In terms of production costs, the conventional methods of mass-producing images in narrow web widths (typically 152mm or 6 inches) and at low speeds, are being overtaken by new techniques that enable security images to be produced in wide web widths (up to 1220mm or 48 inches wide in Applied Opsec's case) at much higher speeds.

As a result, OVD production is seeing a reduction in costs and an increase in capacity to the volume levels now required for major anti-counterfeiting projects.

This is particularly the case in the transport sector where one effect of this trend is that some lower value ticketing applications associated with public transport systems are now turning to OVD-based protection and verification systems to halt considerable losses linked to the use of forged and invalid tickets.

As an example, it is this specialist form of ticket security that Applied OpSec is supplying for the German national rail operator Deutsche Bahn. The OVD foil is being used as part of a new innovative ticketing system designed to verify legitimate passenger tickets and protect them from any attempts at counterfeiting.



For this new ticketing system Deutsche Bahn has developed a special watermarked thermal paper stock. The secure OVD hot stamping foil is applied to the specialist stock as multiple

continuous stripes, which have been slit to register to provide high-level security protection in conjunction with other features.

Designed by Deutsche Bahn Logistics, the new system utilises advanced touch screen technology on ticket vending machines installed at railway stations. Travel details are printed onto the thermal paper stock held in the machines and issued to the passenger in a highly secure format for maximum anti-counterfeiting protection.

The sophisticated OVD material used by Deutsche Bahn is applied to the thermal stock using conventional high-speed foil application systems. Complex origination technology allows the inclusion of both overt and covert features, which remain unaffected by the thermal printing process used to impart travel information onto the ticket and provide an immediate means of identifying tickets as genuine.

Examples such as this illustrate how OVD technology is playing a leading role in the elimination of forged tickets problems encountered by governments, transport authorities and other organisations around the world.

Applied Optical Technologies PLC, 40 Phoenix Road, Crowther, Washington, Tyne & Wear NE38 0AD, United Kingdom, is an Affiliate Member of IGPPA.

Government Printing Office signs new public access agreements

The Government Printing Office (GPO) recently announced new services that significantly expand public access to scientific and technical research information and key information published by the National Library of Medicine. Details are set out below.

Access to federal scientific and technical information

Developed by the Department of Energy's Office of Scientific and Technical Information (OSTI), the *GrayLIT Network* (www.osti.gov/graylit) and *Federal R&D Project Summaries* (www.osti.gov/fedrnd) provide users with the capability to find information regardless of where it resides – by searching for documents across multiple databases of many Federal Agencies – in response to a single query. With these new tools, it is no longer necessary for a user to know which agency is working in a particular area or discipline. The general public as well as users of the more than 1,300 Federal depository libraries nationwide can link to these services through GPO's award-winning web site, *GPO Access* (www.access.gpo.gov).

The *GrayLIT Network* provides a portal to more than 10,000 full-text technical reports located at DOE, the Department of Defense, the Environmental Protection Agency and the National Aeronautics and Space Administration (NASA).

Federal R&D Project Summaries include more than 240,000 research summaries and awards by three of the major sponsors of research in the Federal Government.

Access to key information from National Library of Medicine

An agreement between GPO and the National Library of Medicine (NLM) outlines provisions for permanent access to *Index Medicus, Medical Subject Headings, the National Library of Medicine Current Catalog, The National Library of Medicine Audiovisuals Catalog*, and other titles in the Federal Depository Library Program (FDLP). NLM's search service that provides access to over 11 million citations in *Medline* and other related databases, at Http://purl.access.gpo/gov/GPO/LPS4708 Access to the other titles is through NLM's *Locator Plus* application, at http://purl.access.gpo.gov/GPO/LPS4582

With roots dating to 1813, the FDLP makes US Government information freely available to the public through its system of over 1,300 depository libraries located nationwide. In 1999 financial year, the programme disseminated 16.1 million copies of more than 40,000 titles to depository libraries. The libraries are used by an estimated 9.5 million people annually, not including those using *GPO Access*.

The provision of permanent access to Government information has been a mandated part of the FDLP for nearly half a century. As information dissemination has moved to a more electronic environment, GPO has sought innovative ways to ensure permanent public access for digital publications, including partnership with a variety of academic and governmental entities.

Warehouse consolidation

GPO is undertaking a major consolidation of its leased warehouse space with the relocation of its Springbelt, Virginia, paper storage operations to its Laurel, Maryland, publications storage warehouse. The move shrinks GPO's paper warehouses from 3 sites to 2, saving approximately $5.3 million over the next five years.

Since 1990, GPO has relocated Superintendent of Documents and other operations from leased space to its central office complex, relocated printing operations from Washington DC Navy Yard to the central office, and closed 4 of 5 regional printing plants located around the country.

While GPO continues to purchase a significant amount of paper annually for its in-plant printing operation and for sale to Federal agencies in the Washington DC area, the rising use of electronic information products has reduced GPO's paper purchases. As a result, GPO has less need for paper storage space than it did more than 20 years ago, when the Springbelt warehouse opened.

United States Government Printing Office, 732 North Capitol Street NW, Washington DC 20401, United States of America, is a Member of IGPPA.

NSPA's 24th Annual Conference concludes

The National State Publishing Association (NSPA) of the United States has just concluded its 24th Annual Convention in Carson City, Nevada *writes Lamar Evans of NSPA*. The meeting was hosted by the association's founder, Donald L. Bailey, Sr. and the Nevada State Printing Office. This year's meeting drew attendance from more than 120 individuals. Thirty-four states and the United States Government Printer were represented. The 2000 meeting's focus was on technology and the many ways it is changing the day to day operations of in-plant printing. Sessions focused on such topics as e-commerce, e-printing, managing technology, direct to plate printing and proofing, multi-functional machines and digital document workflow.

The 25th Annual Convention is to be held in Baton Rouge, Louisiana, USA, 30 September to 3 October 2001. For more information contact the NSPA by calling (USA) +601 582-3354 or visiting the association's web site located at www.govpublishing.org

National State Printing Association (USA), 207 Third Avenue, Hattiesburg, MS 39401, United States of America, is a Member of IGPPA.

Views expressed in this newsletter are not necessarily those of the International Government Printing and Publishing Association.

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Membership of IGPPA

The various types

The various types of membership are given below and an application form is printed on this page. However, if you do not wish to spoil your copy of this newsletter a photocopy will be acceptable.

Section 1 — Regular Members
Regular members shall be the national government printing institutions and/or the associations of government printers represented by their respective designated officials. Only regular members may hold elected office.

Section 2 — Associate Members
Associate membership shall be available to printing institutions of other levels of government, colleges and universities. They shall have full participation rights except that they may not vote and may not hold elected office.

Section 3 — Affiliate Members
Affiliate memberships shall be available to manufacturers and suppliers of printing equipment and services. They shall have limited participation rights, may not vote, and may not hold elected office.

Section 4 — Membership
Membership shall be decided by the Executive Committee subject to ratification by the members present at conferences.

Section 5 — Life Members
Life membership may be conferred by the unanimous vote of the members present at conferences.

Application for membership of International Government Printing and Publishing Association

Name of Institution/Organisation: .....

Address .....

.....

Telephone number: .....

Person to whom correspondence is to be addressed: .....

Membership applied for (please tick):

Regular Member* ☐ US $100 (equivalent)
(Institutions with annual turnover less than US $1 million)

☐ US $300 (equivalent)
(Institutions with annual turnover between US $1-3 million)

☐ US $500 (equivalent)
(Institutions with annual turnover exceeding US $3 million)

Associate Member* ☐ US $100 (equivalent)

Affiliate Members* ☐ US $500 (equivalent)

*For details of membership types see above.

Signed ..... *Position* .....

Date .....

Cheques and payable orders should be made out to *The International Government Printing and Publishing Association* and sent with this application form to The Treasurer, Mr. Mikko Suotsalo, c/o Edita Ltd, PO Box 100, FIN-00043 EDITA, Finland.

US005538290A

United States Patent [19]

Diamond

[11] Patent Number: 5,538,290

[45] Date of Patent: Jul. 23, 1996

[54] **METHOD AND APPARATUS FOR INHIBITING THE COPYING OF CHECKS AND NEGOTIABLE DOCUMENTS**

[75] Inventor: **Robert L. Diamond**, Bothell, Wash.

[73] Assignee: **Formtronics, Inc.**, Highland, Utah

[21] Appl. No.: **241,798**

[22] Filed: **May 12, 1994**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 57,614, May 5, 1993, abandoned.

[51] **Int. Cl.**[6] **B42D 15/00**

[52] **U.S. Cl.** **283/113**; 283/114; 283/58

[58] **Field of Search** 283/57, 58, 113, 283/114, 72; 428/357, 199, 211

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Primary Examiner—Willmon Fridie, Jr.
Attorney, Agent, or Firm—Michael A. O'Neil

[57] **ABSTRACT**

A method and apparatus for enhancing the security of a check or negotiable document and deterring the generation of copies of the check or negotiable document. The signature area of a document is imprinted with a pantographic background design different from a pantographic background design covering the remainder of the face of a check. A warning clause describes the color and/or background of the signature area. The endorsement area of a document is also imprinted with a pantographic background design. A warning clause describes the color and/or background of the endorsement area. The endorsement area background may further include a representation of the watermark certification seal to aid an individual in more quickly determining whether the proper watermark seal exist on the check or negotiable document.

23 Claims, 2 Drawing Sheets

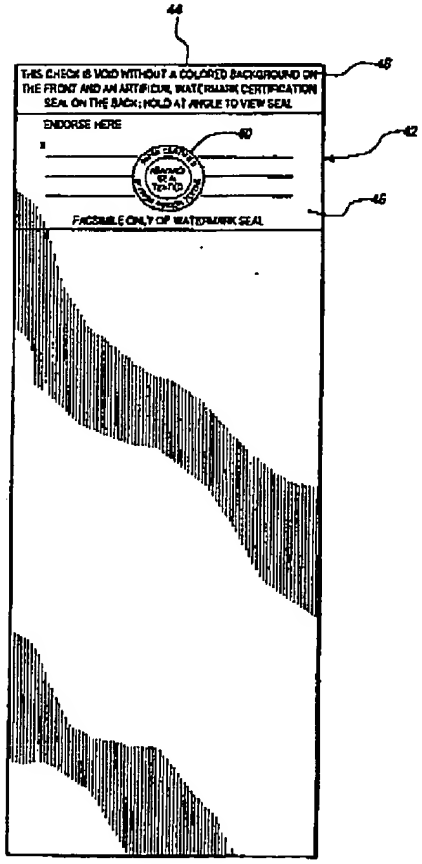

EXHIBIT B

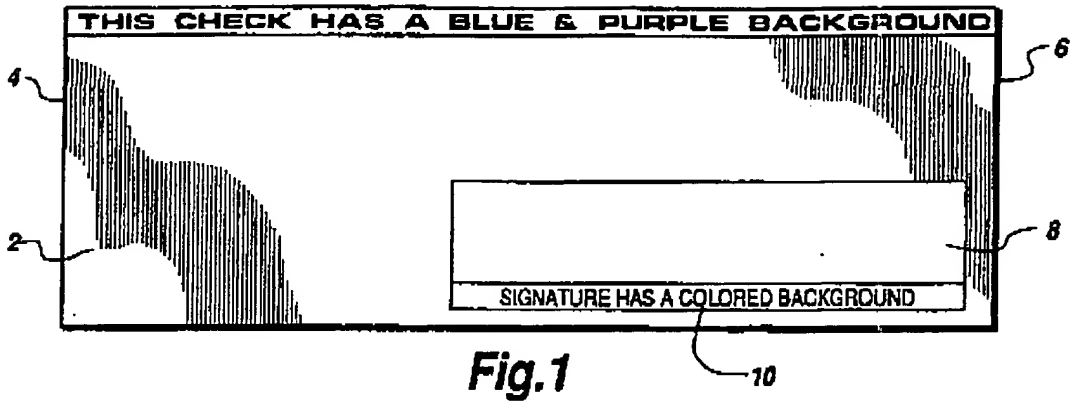

Fig.1

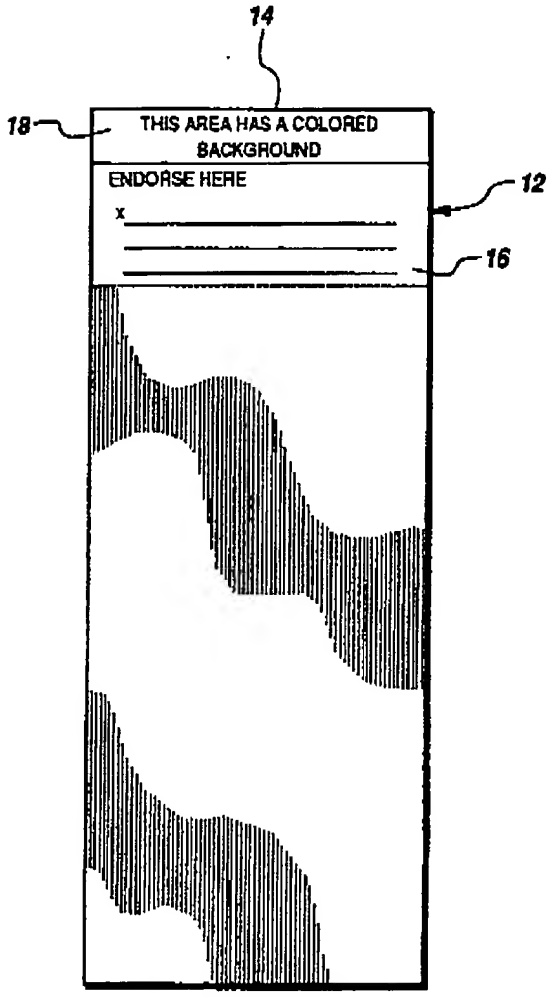

Fig.2

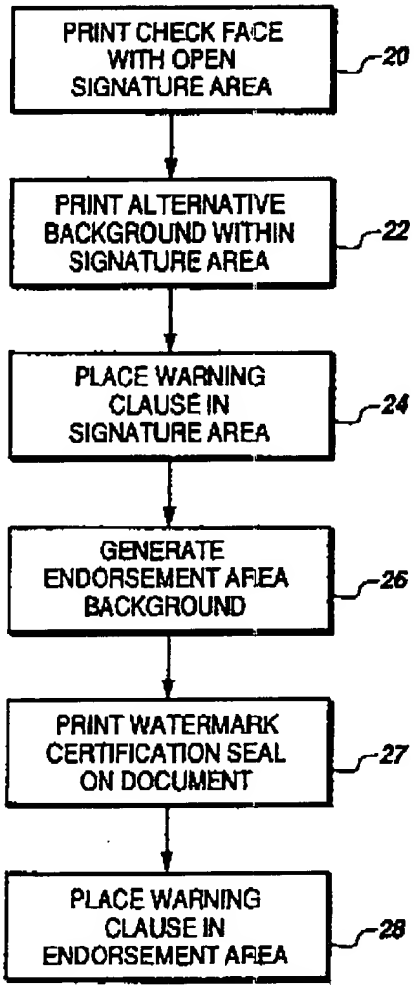

Fig.3

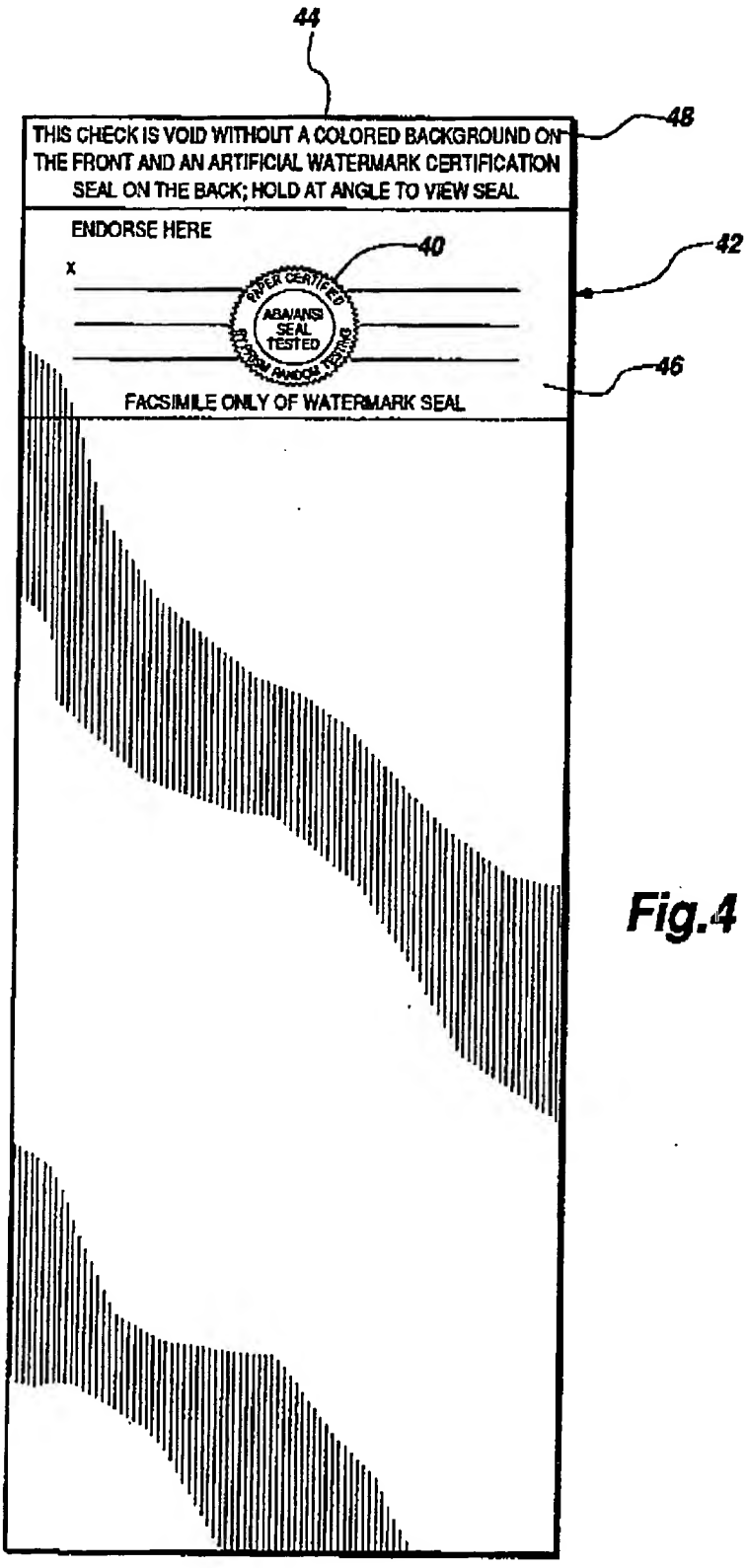
44
THIS CHECK IS VOID WITHOUT A COLORED BACKGROUND ON THE FRONT AND AN ARTIFICIAL WATERMARK CERTIFICATION SEAL ON THE BACK; HOLD AT ANGLE TO VIEW SEAL
48
ENDORSE HERE
40
42
X
PAPER CERTIFIED
ABA/ANSI SEAL TESTED
46
FACSIMILE ONLY OF WATERMARK SEAL

Fig.4

METHOD AND APPARATUS FOR INHIBITING THE COPYING OF CHECKS AND NEGOTIABLE DOCUMENTS

RELATED APPLICATION

This application is a continuation in part of U.S. application Ser. No. 08/057,614, filed May 5, 1993, now abandoned and entitled METHOD AND APPARATUS FOR INHIBITING THE COPYING OF CHECKS AND NEGOTIABLE DOCUMENTS.

TECHNICAL FIELD

This invention relates to a method and apparatus for check copying protection, and more particularly to a method and apparatus for protecting the signature and endorsement areas of a check from copying by unauthorized individuals and for allowing an individual to quickly determine the validity of a check.

BACKGROUND OF THE INVENTION

A major problem within the check cashing industry is the increasing risks arising from the copying of checks by unauthorized individuals. These risks have increased due to the improved technology in the areas of copiers, computer aided design and desk top publishing. Advancements in these areas have created the ability to duplicate checks and other negotiable documents to such a high degree of accuracy that an individual receiving the check or negotiable document has difficulty in determining if the instrument is fraudulent.

A variety of methods have been implemented to protect against the unauthorized copying of checks and negotiable documents. These preventative methods have included the use of multi-colored check faces and specially designed check backgrounds that are not easily copied. Some manufacturers have utilized the placement of the word "void" in a muted design that normally blends in with the background of a check but becomes visible when the check is processed through a single or full color copier. Other manufacturers use a rainbow color scheme with graduated colors from blue to green or blue to purple across the face of a check or negotiable document. The rainbow color scheme makes the check more difficult to photocopy.

Another technique utilized to protect against fraudulent checks and negotiable documents is the placement of artificial watermark certification seals upon the check or negotiable document. The seals are only apparent to an individual when viewing a check or negotiable document from an angle. The watermark certification seals cannot be copied and a warning placed upon the check or negotiable document alerts an individual to the required presence of the watermark.

However, none of these security methods protect two particularly vital areas of a check or negotiable document. The most critical areas of a check or negotiable document are the signature area and the endorsement area on the back of the check. None of the methods to date have focused upon protection of these particularly vital areas. Another problem arises from the fact that the watermark certification seals placed upon the check or negotiable document are difficult to see, making it difficult for an individual cashing the check to easily determine whether the proper watermark seal is present. Thus, a need has arisen for a method and apparatus specifically protecting the vital signature and endorsement areas of a check or negotiable document and allowing an individual to more easily determine the presence of a watermark certification seal.

SUMMARY OF THE INVENTION

The foregoing and other problems are overcome by the present invention. The process generates a check or negotiable document wherein the signature area contains several verifications. These include a printed signature area background differing from the background design of the balance of the check. The signature area background may have a single or multi-color background. A warning clause describes the color and/or background design of the signature area, and is printed in a manner such that it is clearly visible prior to and after any unauthorized copying.

As part of the check printing process, verifications are included on the back of the check within the endorsement area. A background design, similar or different to the design on the front of the check, is printed within the check endorsement area. The design may be single or multi-colored and a warning clause is printed alerting payers of the check to the background and/or color scheme of the endorsement area, and is printed in a manner such that it is clearly visible prior to and after any unauthorized copying.

Finally, within the check endorsement area of the check or negotiable document, a representation of the watermark certification seal is included as part of the backing. This allows a payer of the check to quickly determine the appearance of the watermark certification seals located upon the document, and thus, more easily locate the watermarks.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of the present invention and the advantages thereof, reference is now made to the following description taken in conjunction with the accompanying drawings in which;

FIG. 1 illustrates the front side of a check utilizing the signature area of the present invention;

FIG. 2 is an illustration of the back of a check utilizing the endorsement area of the present invention;

FIG. 3 is a flow diagram describing the process of the present invention; and

FIG. 4 is an illustration of an alternative embodiment of the back of a check having an endorsement area containing a representation of the watermark certification seals incorporated onto the check.

DETAILED DESCRIPTION

Referring now to the Drawings, and more particularly to FIG. 1, there is illustrated the front side of a check utilizing the signature area of the present invention. The check comprises a substantially rectangular sheet of paper having a check face 2, covered with a pantographic background design. As the pantographic background design proceeds from the left side 4 of the check to the right side 6 of the check, the color graduates from one color to other colors, for example, from blue to green or blue to purple. The signature area 8 of the check, comprises an area having a pantographic background design different from the design encompassing the majority of the face 2 of the check. Furthermore, as you proceed from the left side of the signature area to the right side of the signature area, a graduated color change can occur.

A warning clause **10** is placed in the signature area **8** indicating that the signature area has a colored background. The warning clause may also include an indication of the differing background within the signature area **8**, refer to the presence of a watermark certification seal located somewhere on the check or describe any other relevant feature of the signature area. The warning clause **10** uses a background and print that is clearly visible prior to and after any unauthorized copying. In the preferred embodiment, this would be achieved by using a solid color background, as opposed to a pantographic background design, with the warning clause **10**.

Referring now to FIG. **2**, there is shown the back of a check having an endorsement area printed or manufactured in accordance with the present invention. The endorsement area **12** comprises an area located at the top edge **14** of the check. The face **16** of the endorsement area **12** is covered by a pantographic background design similar to the pantographic background design on the face **2** of the check. The pantographic background design may be a single color or alternatively, may have multi-colors fading from one color to the other colors across the face **16** of the endorsement area **12**.

A warning clause **18** across the top of the endorsement area **12** describes the color and/or background of the endorsement area. The warning clause **18** may further describe any relevant aspect of the endorsement area **12** and the face of check **2**. The warning clause **18** is printed using a background and print that is clearly visible prior to and after any unauthorized copying. In the preferred embodiment, this would be achieved by using a solid color background, as opposed to a pantographic background design, with the warning clause **18**. While the description with respect to FIGS. **1** and **2** were made with respect to a check, it is to be understood that the invention is applicable to any negotiable document.

Referring now to FIG. **3**, there is shown a block diagram illustrating the process of the present invention. The check face is printed at step **20**. At step **22**, the signature area is also printed with an alternative background and a color scheme similar to that of the remainder of the face of the check. At step **24**, the warning clause is placed in the signature area of the check to describe the background and/or color of the signature area. The endorsement area background is generated at step **26** within the endorsement area to have a pantographic background design similar to the design on the front of the check. The watermark certification seal representation is printed on the check at step **27** to provide an individual with a quick reference as to the appearance of the watermark certification seals printed on the check. The representation will normally be placed within the endorsement area but this is not required. A warning clause is placed at step **28** in the endorsement area of the check to describe the background and/or color of the endorsement area.

Referring now to FIG. **4**, there is shown an alternative embodiment of the present invention wherein a watermark certification seal representation **40** is incorporated into the background of the check endorsement area **42**. As before, the endorsement area **42** comprises an area located at the top edge **44** of the check. The face **46** of the endorsement area **42** is covered by a pantographic background design similar to the pantographic background design on the front face **2** (FIG. **1**) of the check. At some location within the endorsement area **42**, the watermark certification seal representation **40** is included. The watermark certification seal representation **40** is a replica of the artificial watermark certification seals (not shown) placed upon other locations of the check

or negotiable document. A notification **41** placed at the bottom of the endorsement area **42** notifies a user that the watermark certification seal representation **40** is only a facsimile of the actual watermark certification seal (not shown). By placing the watermark certification seal representation **40** within the endorsement area **42**, an individual can quickly determine what they are looking for when trying to ascertain the existence of an artificial watermark certification seal in other locations on the check. As in FIG. **2** a warning clause **48** notifies users of various security features used on the check.

Although preferred embodiments of the present invention have been illustrated in the accompanying Drawings and described in the foregoing Detailed Description, it will be understood that the invention is not limited to the embodiments disclosed, but is capable of numerous rearrangements, modifications and substitutions of parts and elements without departing from the spirit of the invention.

I claim:

1. A negotiable document having enhanced security for deterring generation of copies of the negotiable document, comprising:

a backing having an artificial watermark certification seal; and

a visually perceptible watermark certification seal representation located on the backing for comparison with the artificial watermark certification seal to determine validity of the negotiable document.

2. The negotiable document of claim **1**, wherein the representation is located within an endorsement area of the negotiable document.

3. The negotiable document of claim **1** further including:

an endorsement area on a first side of the backing for endorsing the negotiable document; and

a pantographic background design substantially covering the endorsement area of the negotiable documents, said pantographic background design having a single color.

4. The negotiable document of claim **3**, wherein the pantographic background design is multicolored.

5. The negotiable document of claim **3**, wherein the endorsement area further includes a warning clause describing the pantographic background design of the endorsement area.

6. The negotiable document of claim **5**, wherein the warning clause describes the color of the pantographic background design.

7. The negotiable document of claim **1** further including:

a signature area on a second side of the backing; and

a pantographic background design substantially covering the signature area and differing from a pantographic background design on the second side of the backing.

8. The negotiable document of claim **7**, wherein the pantographic background design of the signature area is multicolored.

9. The negotiable document of claim **7**, wherein the signature area further includes a warning clause describing the pantographic background design of the signature area.

10. The negotiable document of claim **9**, wherein the warning clause describes the color of the pantographic background design.

11. A negotiable document having enhanced security for deterring generation of copies of the negotiable document, comprising:

a backing having an artificial watermark certification seal;

a watermark certification seal representation on the backing for comparison with the artificial watermark certi-

fication seal to determine validity of the negotiable document;

an endorsement area on a first side of the backing for endorsing the negotiable document;

a pantographic background design substantially covering the endorsement area, said pantographic background having a single color;

a signature area on a second side of the backing; and

a pantographic background design substantially covering the signature area and differing from a pantographic background design on the second side of the backing.

12. The negotiable document of claim 11, wherein the representation is located within the endorsement area of the negotiable document.

13. The negotiable document of claim 12, wherein the pantographic background of the endorsement area is multi-colored.

14. The negotiable document of claim 11, wherein the endorsement area further includes a warning clause describing the pantographic background design of the endorsement area.

15. The negotiable document of claim 14, wherein the warning clause describes the color of the pantographic background design.

16. The negotiable document of claim 11, wherein the pantographic background design of the signature area is multi-colored.

17. The negotiable document of claim 11, wherein the signature area further includes a warning clause describing the pantographic background design of the signature area.

18. The negotiable document of claim 17, wherein the warning clause describes the color of the pantographic background design.

19. A method for enhancing security of a negotiable document and deterring copying of the negotiable document, comprising the steps of:

generating an artificial watermark certification seal on the negotiable document; and

placing a visually perceptible watermark certification seal representation on the negotiable document.

20. The method of claim 19, further including the step of placing the watermark certification seal representation in an endorsement area of the negotiable document.

21. The method of claim 19 further including the steps of:

printing a first pantographic background design within a signature area;

printing a second pantographic background design substantially covering a first side of the negotiable document and differing from the first pantographic background design; and

generating a warning clause describing the pantographic background design of the signature area.

22. The method of claim 19, further including the step of printing a pantographic background design within an endorsement area on a second side of the negotiable document.

23. The method of claim 22, further including the step of generating a warning clause describing the pantographic background design within the endorsement area.

* * * * *